

SHARP SERVICE MANUAL

No. S41P640LE830E



LCD COLOUR TELEVISION LC-40LE830E/RU LC-46LE830E/RU LC-40LE831E/S MODELS LC-46LE831E/S

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SAFETY PRECAUTION

IMPORTANT SERVICE SAFETY PRECAUTION

- Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:

■ WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.

CAUTION:

FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE.

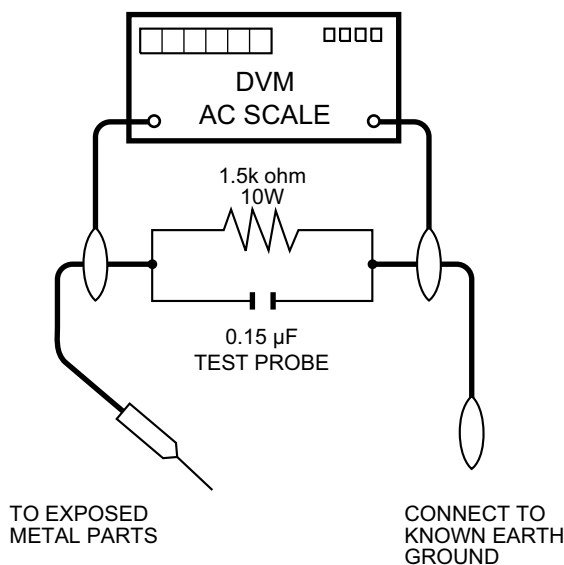
F7001 (5A/250V)

■ BEFORE RETURNING THE RECEIVER (Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks:

3. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
4. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
5. To be sure that no shock hazard exists, check for leakage current in the following manner:
 - Plug the AC cord directly into a 220~240 volt AC outlet.
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.

- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
All checks must be repeated with the AC cord plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)
Any reading of 1.05 V peak (this corresponds to 0.7 mA peak AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.



SAFETY NOTICE

Many electrical and mechanical parts in LCD color television have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by “⚡” and shaded areas in the Replacement Parts List and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit.

The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire or other hazards.

Precautions for using lead-free solder

■Employing lead-free solder

- “PWBs” of this model employs lead-free solder. The LF symbol indicates lead-free solder, and is attached on the PWBs and service manuals. The alphabetical character following LF shows the type of lead-free solder.

Example:

LFa

Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

LFa/a

Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

■Using lead-free wire solder

- When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40 °C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

■Soldering

- As the melting point of lead-free solder (Sn-Ag-Cu) is about 220 °C which is higher than the conventional lead solder by 40 °C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.

If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

- Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

Part No.	★	Description	Code
ZHNDai123250E	J	φ0.3mm 250g (1roll)	BL
ZHNDai126500E	J	φ0.6mm 500g (1roll)	BK
ZHNDai12801KE	J	φ1.0mm 1kg (1roll)	BM

End of life disposal



Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.

A. Information on Disposal for Users (private households)

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.

Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.

*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

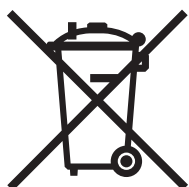
If the product is used for business purposes and you want to discard it:

Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In other Countries outside the EU

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.



For EU: The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation. Please contact your local authority for details on the collection and recycling schemes.

For Switzerland: The used battery is to be returned to the selling point.

For other non-EU countries: Please contact your local authority for correct method of disposal of the used battery.

OUTLINE

MAJOR SERVICE PARTS

■PWB Unit

Ref No.	Parts No.	Description
N	DKEYDF733FM51	MAIN Unit (LC-40/46LE830E, RU) (*1)
N	DKEYDF733FM52	MAIN Unit (LC-40/46LE831E, S) (*1)
N	DUNTKF494FM02	R/C, OPC Unit
N	DUNTKF770FM51	ICON Unit
N	RUNTKA869WJQZ	TOUCH SENSOR KEY Unit (*2)
N	RUNTKA819WJQZ	IR TRANSMITTER Unit
N	RUNTKA787WJQZ	POWER Unit (LC-40LE830E, RU/831E, S)
N	RUNTKA791WJQZ	POWER Unit (LC-46LE830E, RU/831E, S)
N	RUNTK4909TPZT	LCD CONTROL Unit (LC-40LE830E, RU/831E, S)
N	RUNTK4909TPZM	LCD CONTROL Unit (LC-46LE830E, RU/831E, S)

NOTE: (*1) Replace MAIN PWB Unit (DKEYDF733FM**) in case of IC8401 or IC3303 failure.

(*2) TOUCH SENSOR KEY Unit (RUNTKA869WJQZ) reuse will be impossible, once it is stuck on front cabinet and exfoliates.

■OTHER Unit

Ref No.	Parts No.	Description
N	R1LK400D3GW50Y	40" LCD Panel Module Unit (LK400D3GW50Y) (LC-40LE830E, RU/831E, S)
N	R1LK460D3GW40Y	46" LCD Panel Module Unit (LK460D3GW40Y) (LC-46LE830E, RU/831E, S)

■IC For Exclusive Use Of The Service

Ref No.	Parts No.	Description	Q'ty
IC2001	RH-iXD241WJN2Q	IC R5F21368CNFP (Monitor Microcomputer)	1

■Service Jigs

Ref No.	Parts No.	Description	Q'ty
N	QCNW-L795WJQZ	Main Unit to Power Unit (PD)	1
N	QCNW-L798WJQZ	Main Unit to Touch Sensor/IR Transmitter Units (RC)	1
N	QCNW-L796WJQZ	Main Unit to ICON Unit (CI)	1
N	QCNW-K595WJQZ	Main Unit to Speaker (SP)	1
N	QCNW-G405WJQZ	Main Unit to LCD Control Unit (PL)	1
N	QCNW-F676WJQZ	Power Unit to LCD Control Unit (LW)	1
N	QCNW-K597WJQZ	Main Unit to Woofer (SB)	1

CHAPTER 1. SPECIFICATIONS

[1] SPECIFICATIONS

Item			LCD COLOUR TV (46"/117 cm), LC-46LE830E, LC-46LE830RU LC-46LE831E, LC-46LE831S	LCD COLOUR TV (40"/102 cm), LC-40LE830E, LC-40LE830RU LC-40LE831E, LC-40LE831S
LCD panel			117 cm (46") X-Gen panel	102 cm (40") X-Gen panel
Resolution			1,920 x 1,080 x 4 dots	
Video colour system			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60	
TV function	TV-standard	Analogue	CCIR (B/G, I, D/K, L/L')	
		Digital (830 series)	DVB-T (2K/8K OFDM), DVB-C, DVB-S/S2	
		Digital (831 series)	DVB-T (2K/8K OFDM), DVB-T2 (1K/2K/4K/8K/16K/32K OFDM), DVB-C	
	Receiving channel	VHF/UHF	IR A ch-E69 ch (Digital), E2-E69 ch, F2-F10 ch, I21-I69 ch, IR A-IR J ch	
		CATV	Hyper-band, S1-S41 ch	
		Satellite (830 series only)	950-2150 MHz*1	
	TV-tuning system		Auto Preset 999 ch (non-Nordic [DTV]), Auto Preset 9999 ch (Nordic [DTV]), Auto Preset 99 ch (ATV), Auto Label, Auto Sort, Auto Preset 9999 ch (SAT [830 series only])	
	Stereo/Bilingual		A2/NICAM	
Audio amplifier			10 W x 2 / 15 W x 1	
Speaker			(103 mm x 14 mm) x 2/Ø 100 mm	
Terminals	Antenna	VHF/UHF	75 Ω Din type (analogue & digital)	
		Satellite (830 series only)	75 Ω F type (DVB-S/S2)	
	RS-232C		D-sub 9 pin male connector	
	EXT 1		SCART (AV input, Y/C input, RGB input, TV output)	
	EXT 2		RCA pin (AV input/AUDIO L/R)	
	EXT 3		Component (AV input/Audio L/R)	
	PC		mini D-sub 15 pin	
	HDMI 1 (EXT 4)		HDMI (ARC)	
	HDMI 2 (EXT 5)		HDMI	
	HDMI 3 (EXT 6)		HDMI	
	HDMI 4 (EXT 7)		HDMI	
	USB 1		USB	
	USB 2 (HDD)		USB	
	USB 3 (WIRELESS LAN)		USB	
	ETHERNET (10/100)		Network connector	
	HDMI 2/PC AUDIO (L/R)		Ø 3.5 mm jack*2	
	DIGITAL AUDIO OUTPUT		Optical S/PDIF digital audio output	
	C. I. (Common Interface)		EN50221, R206001, CI Plus specification	
	OUTPUT/Headphones		RCA pin (AUDIO L/R)/Ø 3.5 mm jack (audio output)	
	SD CARD (VIDEO STORE)		SD card	
OSD language			Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Russian, Slovak, Slovene, Spanish, Swedish, Turkish, Ukrainian	
Power requirement			AC 220-240 V, 50 Hz	
Power consumption (method IEC62087)			133 W (0.2 W standby*3)	110 W (0.2 W standby*3)
Weight			19.0 kg (without stand) 23.0 kg (with stand)	13.5 kg (without stand) 16.5 kg (with stand)
Operating temperature			0 °C to + 40 °C	

*1 The satellite channel's frequency may vary according to satellites and antennas.

*2 The HDMI 2 and PC terminals can both use the same audio input terminal.

*3 Standby power consumption applies when the TV is set to not receive EPG data.

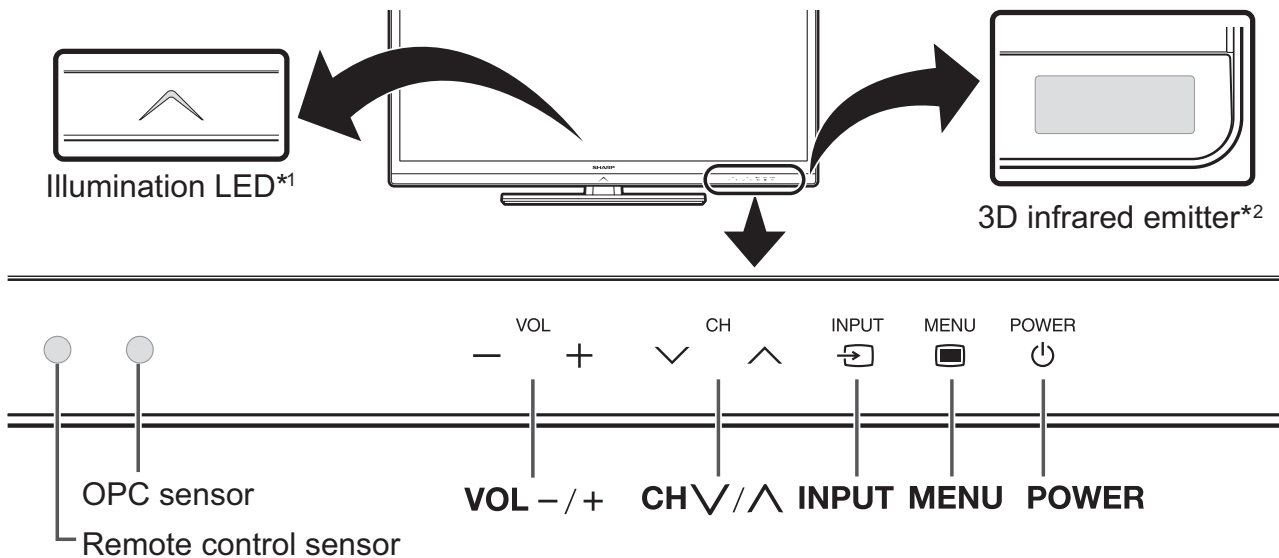
- As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units.

There may be some deviations from these values in individual units.

CHAPTER 2. OPERATION MANUAL

[1] Parts Name

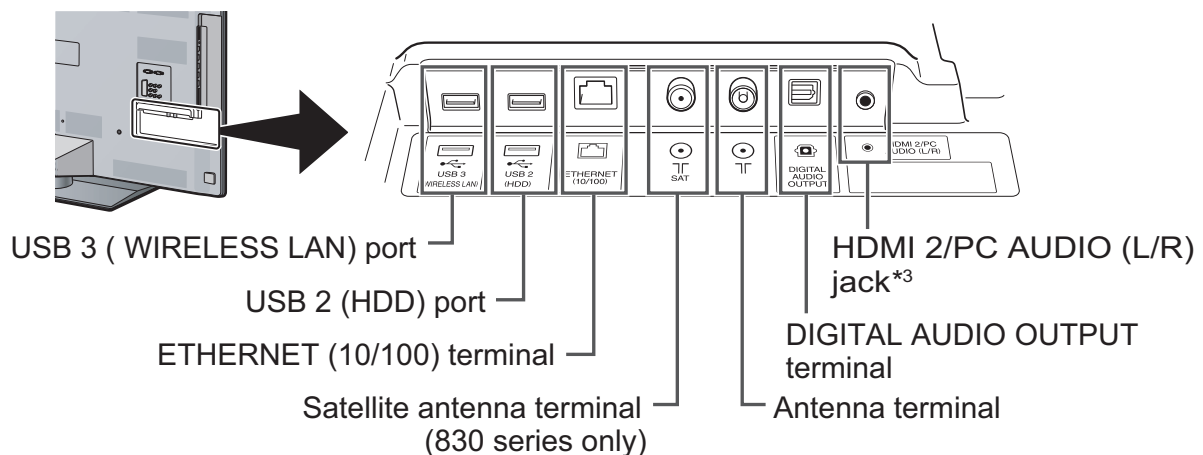
TV (front view)



- *1 3D mode: Blue illumination
2D mode: White illumination

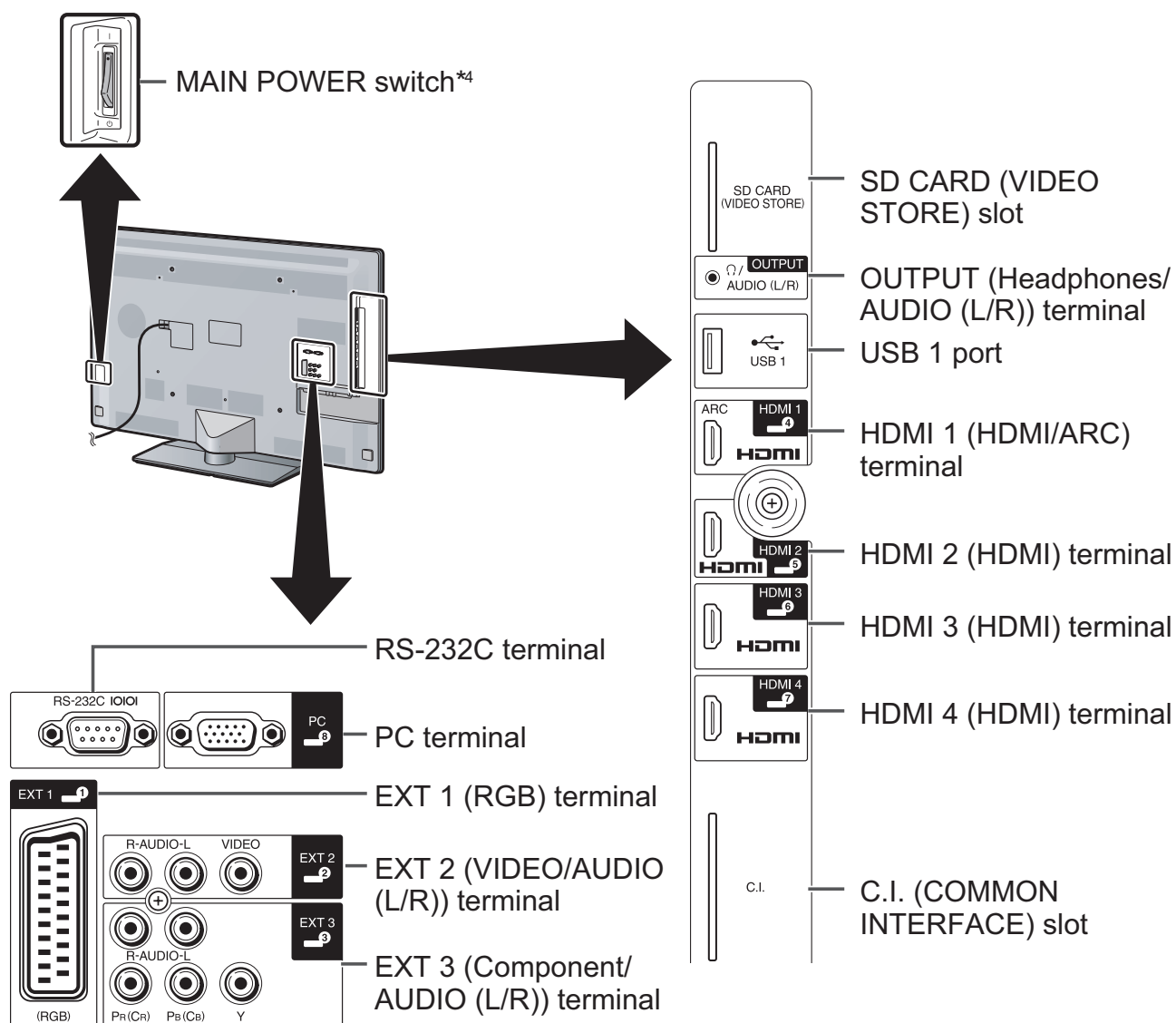
- *2 This panel emits infrared signal towards the 3D glasses you wear when viewing 3D images. Do not place anything between the 3D infrared emitter on the TV and the infrared receiver on the 3D glasses.

TV (rear view)



- *3 The HDMI 2 and PC terminals can both use the same audio input terminal (HDMI 2/PC AUDIO (L/R)). However, the proper item must be selected in the "Audio select" menu.

TV (rear view) — continued



*4 When the MAIN POWER switch is turned off (⏻), the amount of electric power consumed will be reduced to 0.01 W or less. However, unlike when unplugging the AC cord, the power is not completely disconnected.

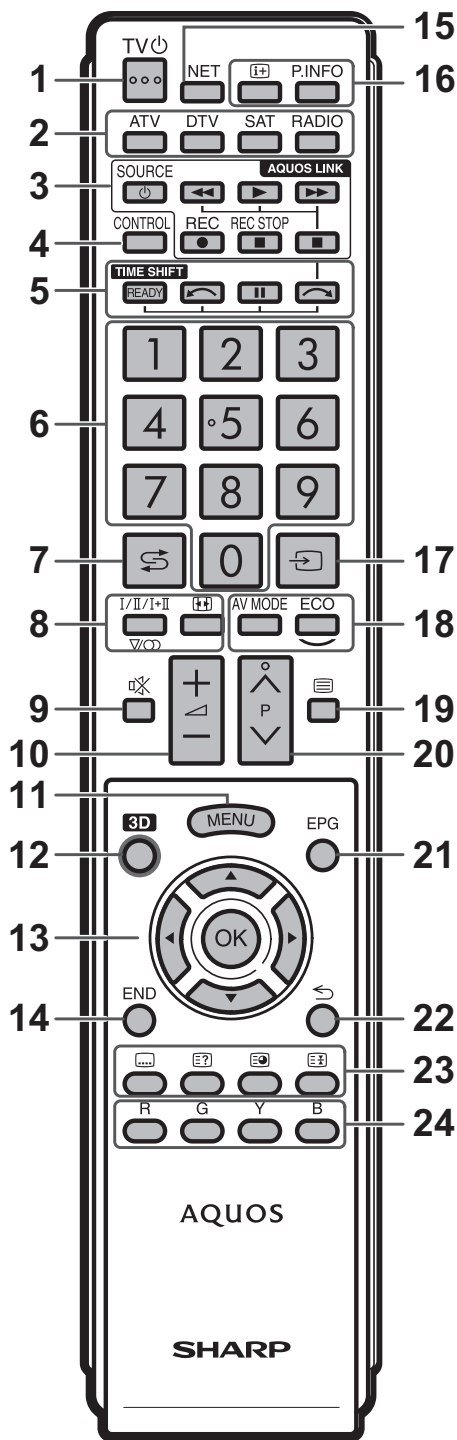
WARNING

- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Do not set the volume at a high level. Hearing experts advise against extended listening at high volume levels.

Important information:

Satellite services are only available for the 830 model series.

Remote control unit



- 1 **TV** (Standby/On)
- 2 **ATV**
Access conventional analogue TV mode.
DTV
Access digital TV mode.
SAT
Access satellite mode.
RADIO
DTV/SAT: Switch between radio and data mode.
 - When only data broadcasting (no radio broadcasting) is transmitted by DVB, the radio broadcasting will be skipped.
- 3 **AQUOS LINK buttons**
- 4 **CONTROL**
Display a panel to operate some functions on the screen.
NET: "NET MENU" screen on/off.
- 5 **TIME SHIFT (READY/PAUSE/STOP/PLAY)**
Temporarily record a programme you are watching.
- 6 **Numeric buttons 0-9**
Set the channel. Enter desired numbers.
Set the page in teletext mode.
 - When the five Nordic countries (Sweden, Norway, Finland, Denmark or Iceland) are selected in the country setting from initial auto installation, DTV services are four digits.
When another country is selected, DTV services are three digits.
- 7 **Flashback**
Return to the previously selected channel or external input.
- 8 **I/II/I+II (Sound mode)**
Select a sound multiplex mode.
Wide mode
Select a wide mode.

- 9  **(Mute)**
TV sound on/off.
- 10  **(Volume)**
Increase/decrease TV volume.
- 11 **MEMU**
“Menu” screen on/off.
- 12 **3D**
Select between 3D and 2D image viewing.
- 13  **(Cursor)**
Select a desired item.
OK
Execute a command.
ATV/DTV/SAT: Display “CH list” when no other “Menu” screen is running.
- 14 **END**
ATV/DTV/SAT: Exit the “Menu” screen.
NET: Return to the start page.
- 15 **NET**
Access Net TV.
- 16  **(Display information)**
Display the station information (channel number, signal, etc.) on the screen.
P. INFO
Display programme information transmitted through digital video broadcasting (DTV/SAT only).
- 17  **(INPUT)**
Select an input source.
- 18 **AV MODE**
Select audio/video settings.
ECO (Standard/Advanced/Off)
Select “Energy save” setting.
- 19  **(Teletext)**
ATV: Display analogue teletext.
DTV/SAT: Select MHEG-5 or teletext for DTV/SAT.
- 20  **P^/V**
ATV/DTV/SAT: Select the TV channel.
NET: Scrolls pages up/down.
- 21 **EPG**
DTV/SAT: Display the EPG screen.
- 22  **(Return)**
ATV/DTV/SAT: Return to the previous “Menu” screen.
NET: Return to the previous page (This may not function for some services).
- 23 **Buttons for useful operations**
 **(Subtitle)**
Switch subtitle languages on/off.
 **(Reveal hidden teletext)**
 **(Subpage)**
 **(Freeze/Hold)**
Freeze a moving image on the screen.
Teletext: Stop updating teletext pages automatically or release the hold mode.
- 24 **R/G/Y/B (Colour) buttons**
The coloured buttons are correspondingly used to select the coloured items on the screen (e.g., EPG, MHEG-5, teletext).

Important information:

Satellite services are only available for the 830 model series.

[2] OPERATION MANUAL

Preparation

Attaching the stand unit

- Before performing work, spread cushioning over the surface on which you will be laying the TV. This will prevent it from being damaged.

CAUTION

- Attach the stand in the correct direction.
- Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.

- 1 Confirm that there are screws with the stand unit.

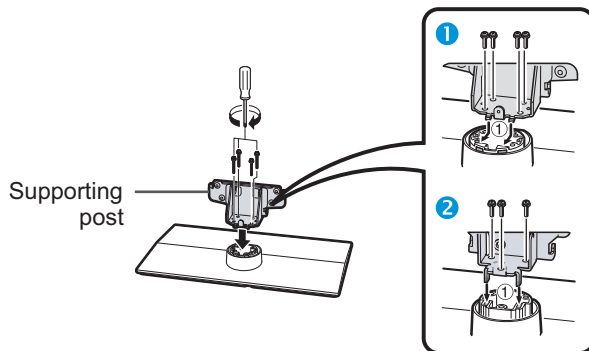
- ① For 46 inch models
(four long screws, four middle screws and one short screw)



- ② For 40 inch models
(three long screws, three middle screws and one short screw)



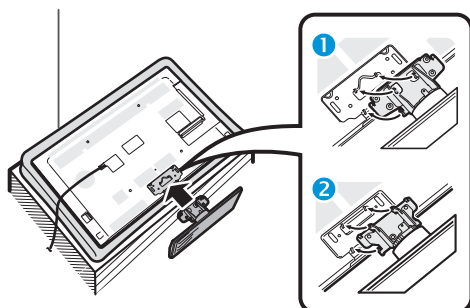
- 2 Attach the supporting post for the stand unit onto the base using the long screws with a screwdriver as shown.



① 46 inch models

② 40 inch models

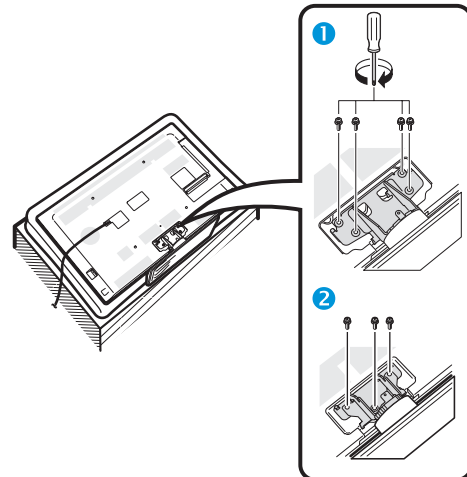
- 3 Insert the stand into the openings on the bottom of the TV (hold the stand so it will not drop from the edge of the base area).
Soft cushion



① 46 inch models

② 40 inch models

- 4 Insert and tighten middle screws into the holes on the rear of the TV.

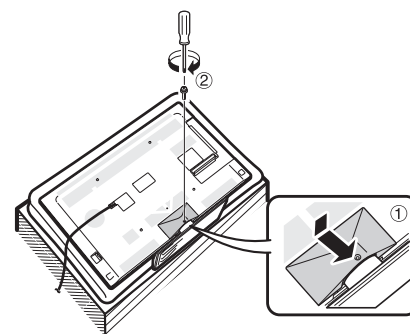


① 46 inch models

② 40 inch models

- 5 Attaching the stand cover.

- ① Insert the stand cover.
- ② Insert and tighten a short screw into the hole of the stand cover.

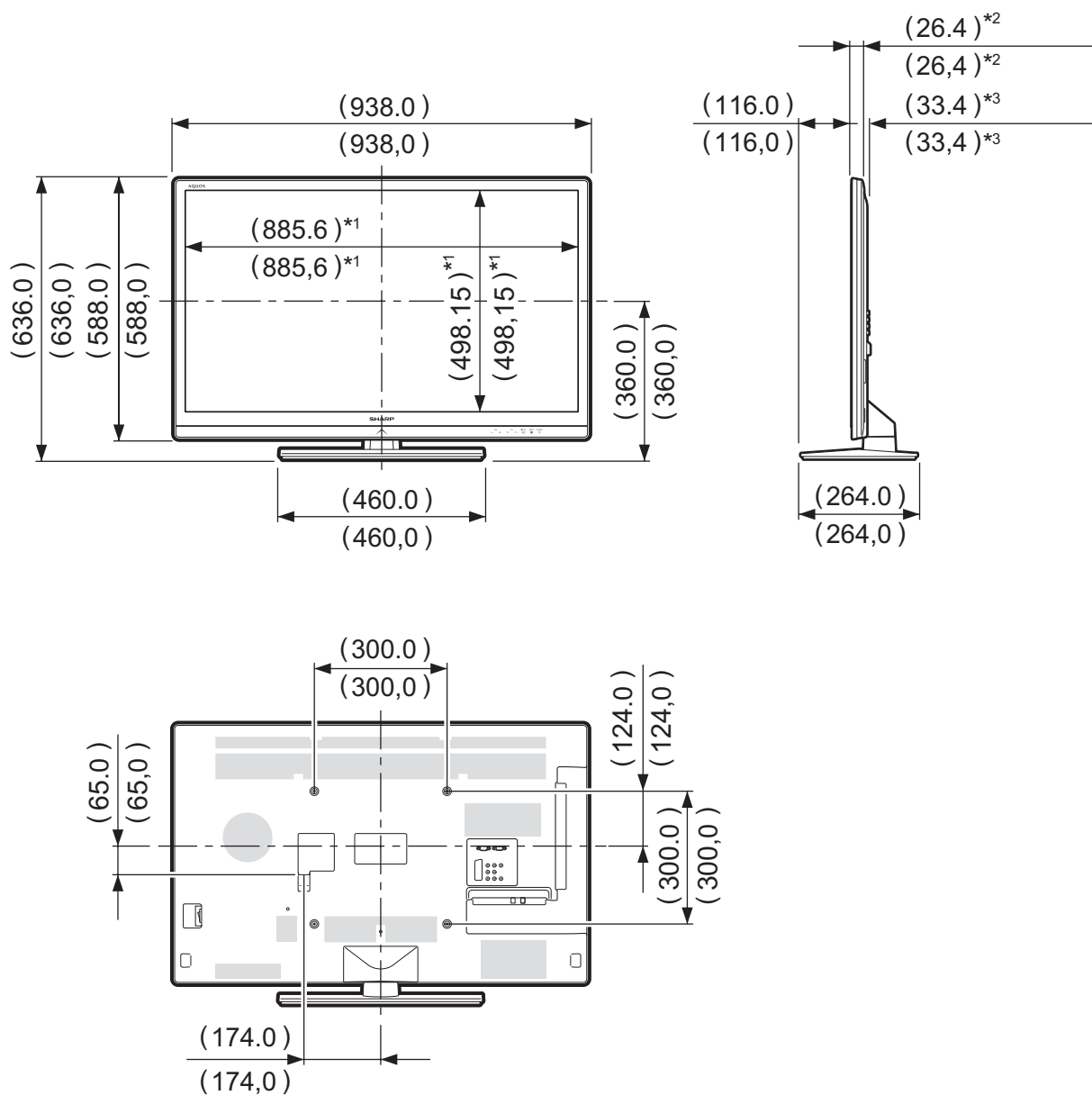


NOTE

- To detach the stand unit, perform the steps in reverse order.
- A screwdriver is not supplied with this product.
- The TV can be rotated up to 20 degrees to the right and left.

CHAPTER 3. DIMENSIONS**[1] DIMENSIONS (LC-40LE830E, RU/831E, S)**

Unit: mm



*1 Active area

*2 Thinnest part

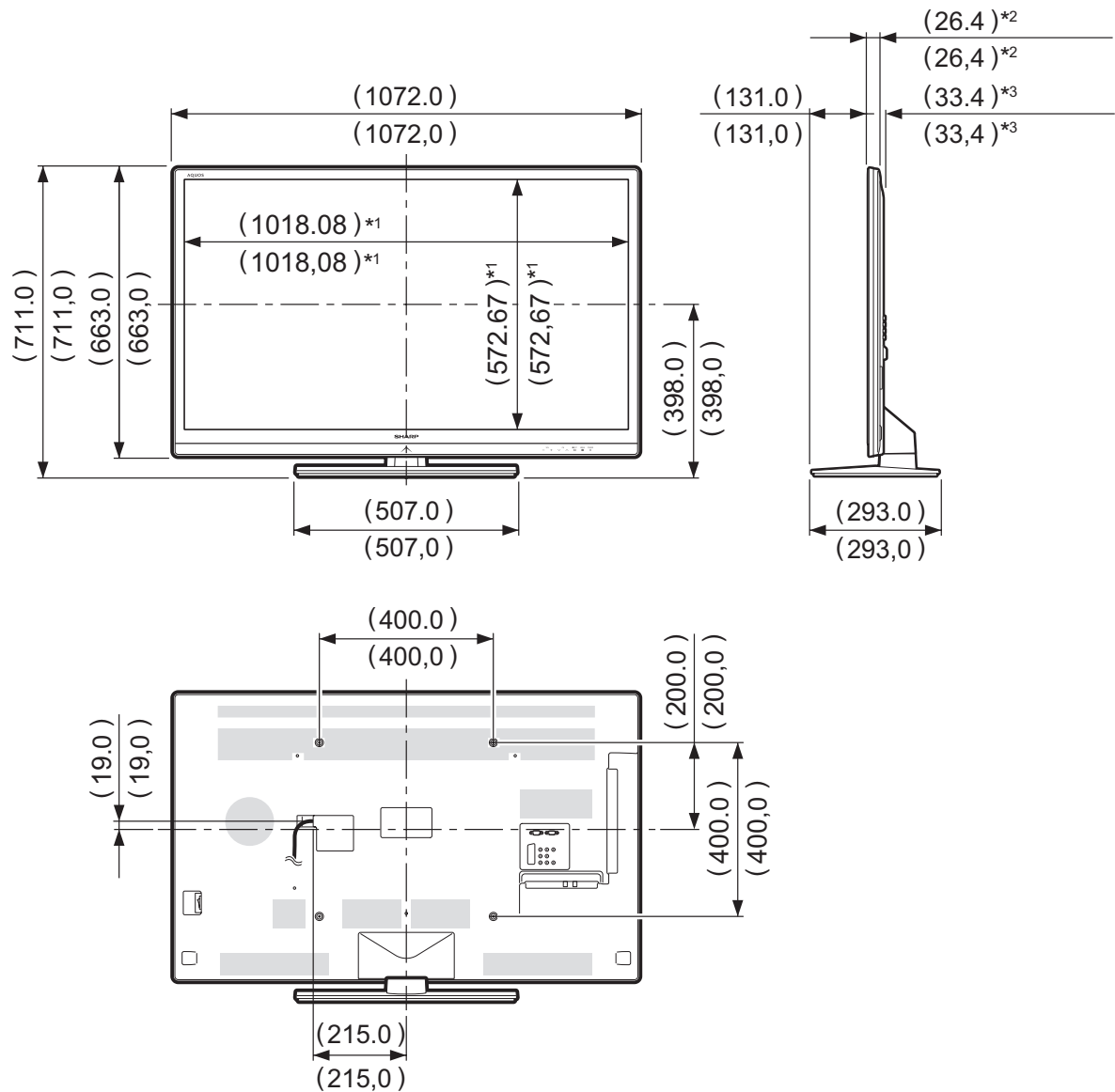
*3 Excluding projecting part

NOTE

- Dimensions do not include protrusions such as screws and some parts.

[2] DIMENSIONS (LC-46LE830E, RU/831E, S)

Unit: mm



*1 Active area

*2 Thinnest part

*3 Excluding projecting part

NOTE

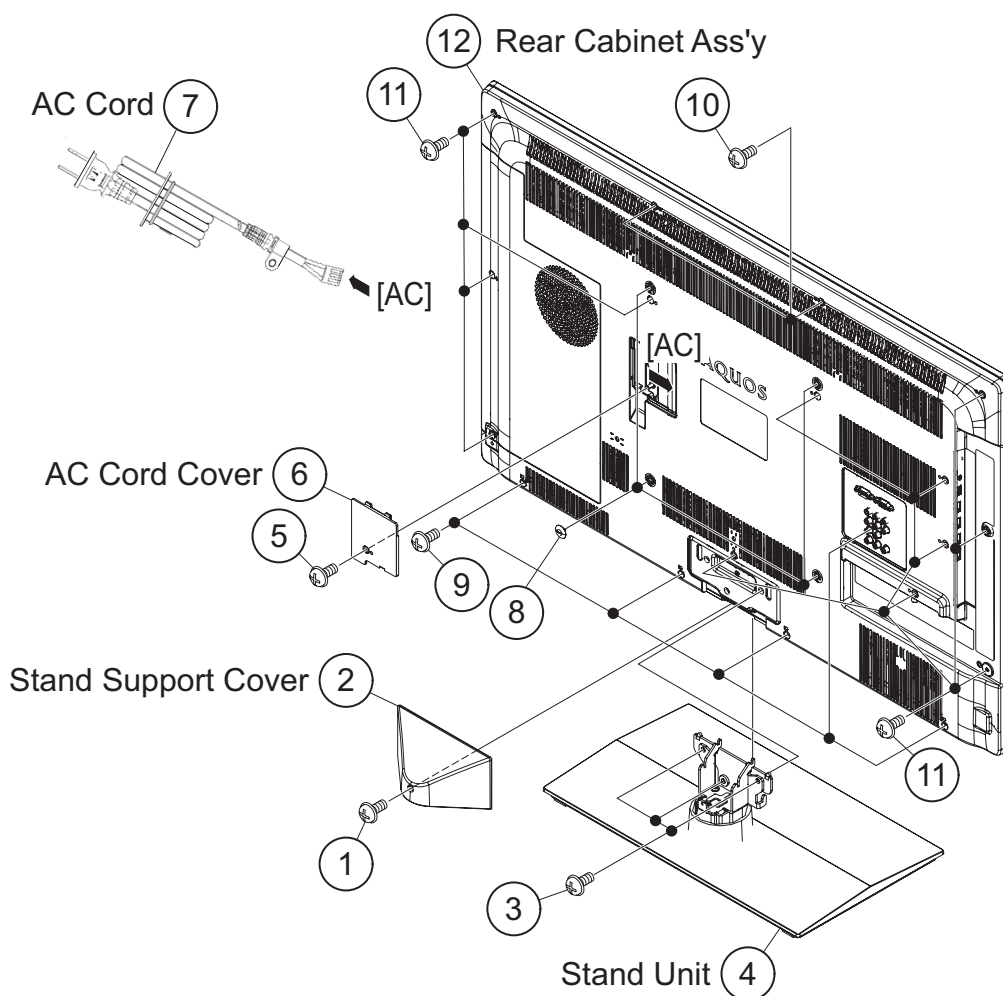
- Dimensions do not include protrusions such as screws and some parts.

CHAPTER 4. REMOVING OF MAJOR PARTS

[1] REMOVING OF MAJOR PARTS (LC-40LE830E, RU/831E, S)

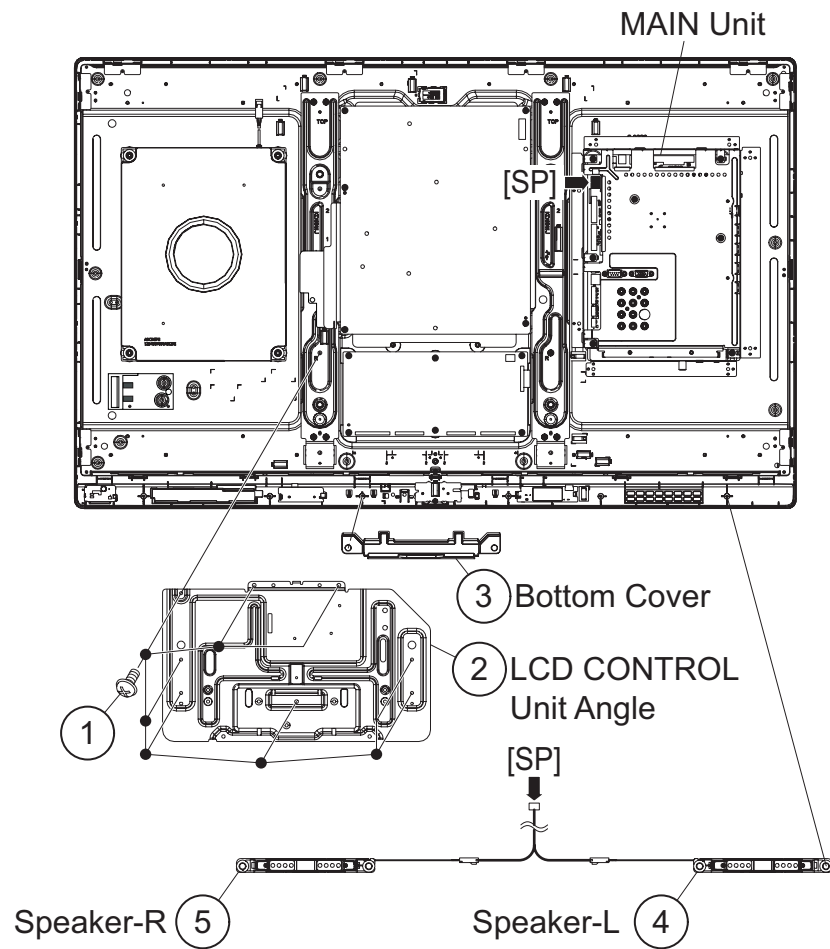
1. Removing of Stand Unit and Rear Cabinet Ass'y.

1. Remove the 1 lock screw ① and detach the Stand Support Cover ②.
2. Remove the 3 lock screws ③ and detach the Stand Unit ④.
3. Remove the 1 lock screw ⑤ and detach the AC Cord Cover ⑥.
4. Disconnect the AC wire and detach the AC Cord ⑦.
5. Remove the 4 Vesa Hole Covers ⑧, 5 lock screws ⑨, 2 lock screws ⑩ and 12 lock screws ⑪ and detach the Rear Cabinet Ass'y ⑫.



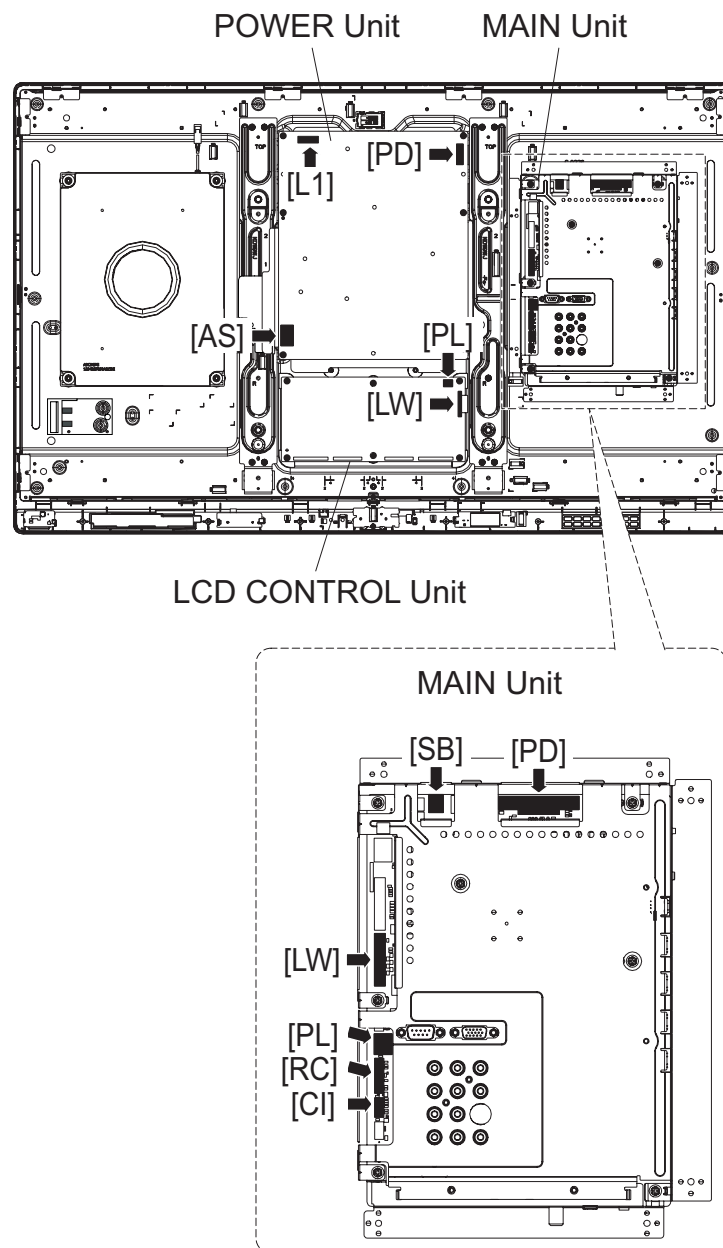
2. Removing of Speaker-L/R.

1. Remove the 8 lock screws ① and detach the LCD CONTROL Unit Angle ②.
2. Detach the Bottom Cover ③.
3. Disconnect the SP wire.
4. Detach the Speaker-L ④, Speaker-R ⑤.



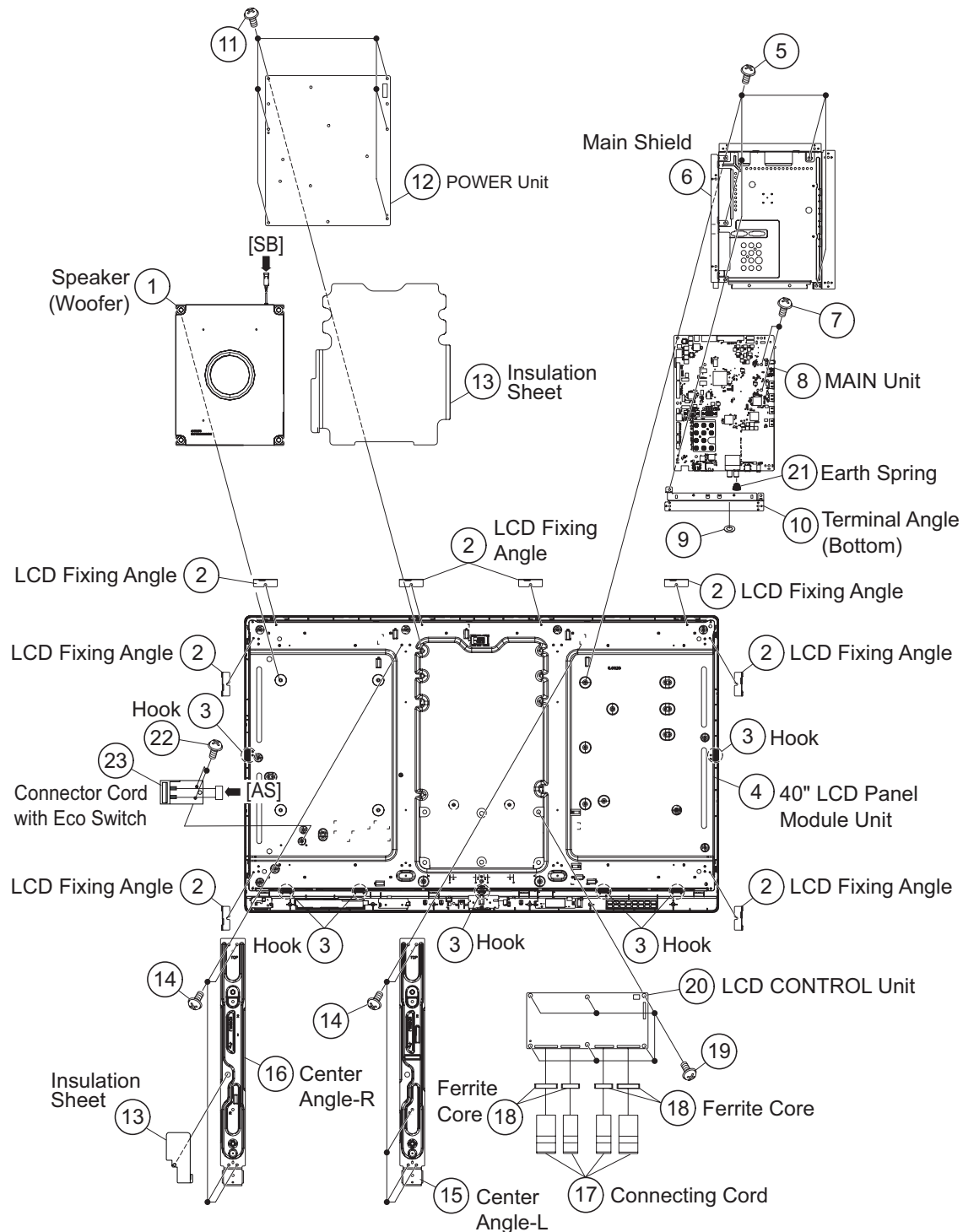
3. Removing of Connectors

1. Disconnect the following connectors from the MAIN Unit. (SB, PD, LW, PL, RC, CI)
2. Disconnect the following connectors from the POWER Unit. (PD, L1, AS)
3. Disconnect the following connectors from the LCD CONTROL Unit. (LW, PL)



4. Removing of Speaker (Woofer), 40" LCD Panel Module Unit, MAIN Unit, POWER Unit, LCD CONTROL Unit.

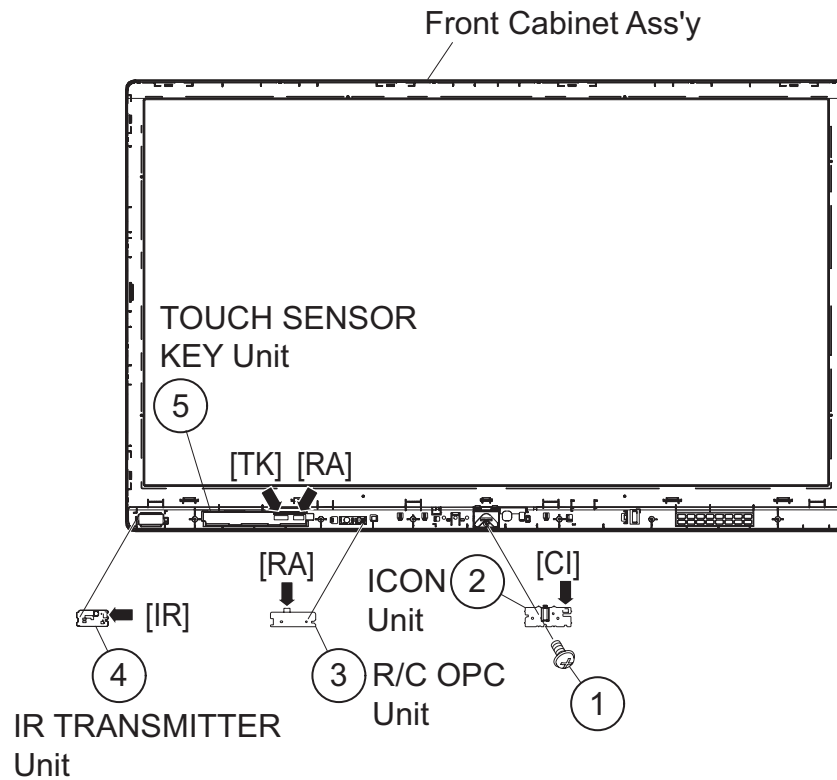
1. Detach the Speaker (Woofer) ①.
2. Detach the 8 LCD Fixing Angles ②.
3. Remove the 7 Hooks ③ and detach the 40" LCD Panel Module Unit ④.
4. Remove the 5 lock screws ⑤ and detach the Main Shield ⑥.
5. Remove the 2 lock screws ⑦ and detach the MAIN Unit ⑧.
6. Remove the 1 lock nut ⑨ and Terminal Angle (Bottom) ⑩ and Earth Spring ⑪.
7. Remove the 6 lock screws ⑫ and detach the POWER Unit ⑬ and 2 Insulation Sheet ⑭.
8. Remove the 9 lock screws ⑮ and detach the Center Angle-L ⑯, Center Angle-R ⑰.
9. Remove the 4 Connecting Cords ⑱, 4 Ferrite Cores ⑲ and 6 lock screws ⑲ and detach the LCD CONTROL Unit ⑳.
10. Remove the 2 lock screws ㉓ and detach the Connector Cord with Eco Switch ㉔.



5. Removing of ICON Unit, R/C OPC Unit, IR TRANSMITTER Unit, TOUCH SENSOR KEY Unit.

1. Remove the 1 lock screw ① and detach the ICON Unit ②.
2. Detach the R/C OPC Unit ③.
3. Detach the IR TRANSMITTER Unit ④.
4. Detach the TOUCH SENSOR KEY Unit ⑤.

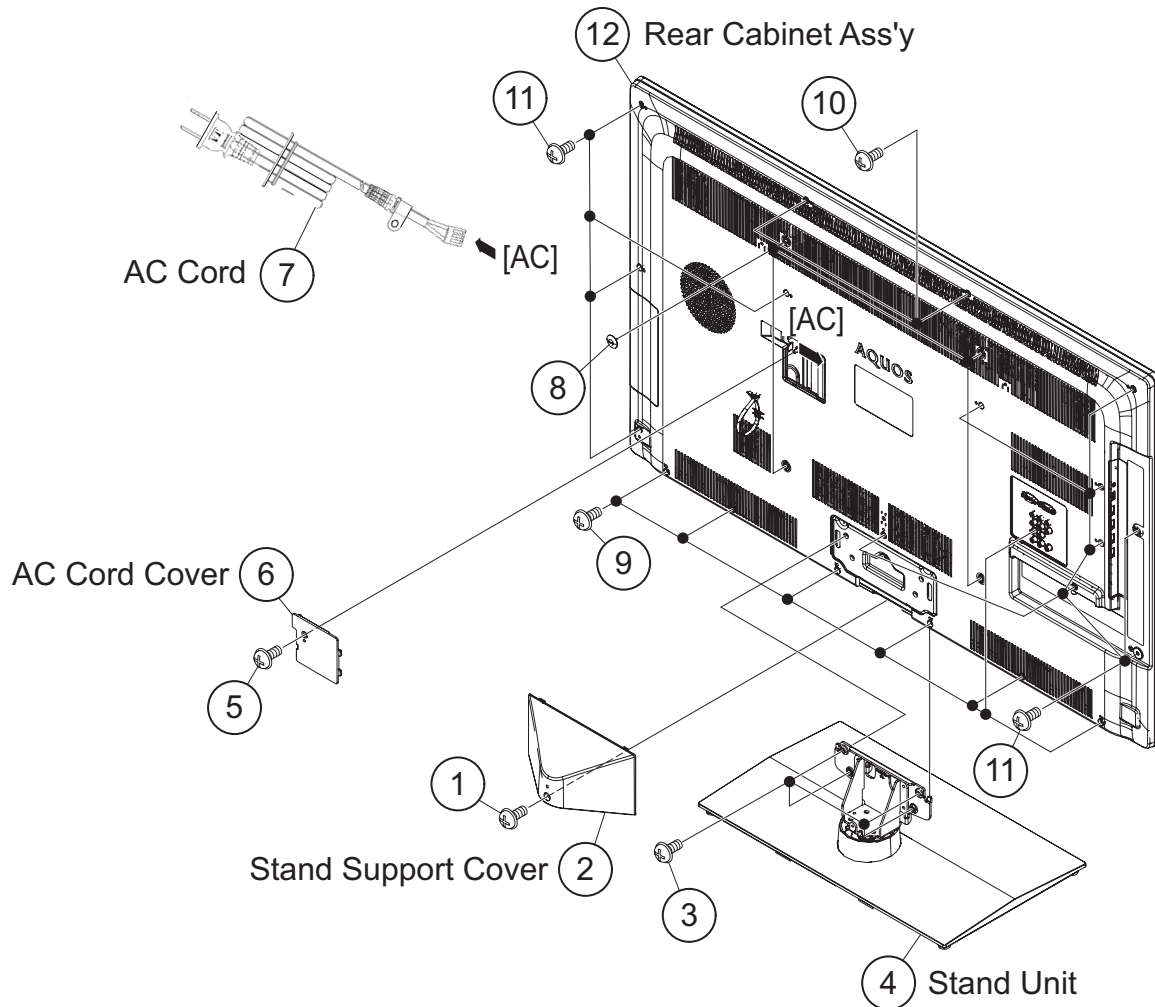
NOTE: The TOUCH SENSOR KEY unit ⑤ reuse will be impossible, once it is stuck on front cabinet and exfoliates.



[2] REMOVING OF MAJOR PARTS (LC-46LE830E, RU/831E, S)

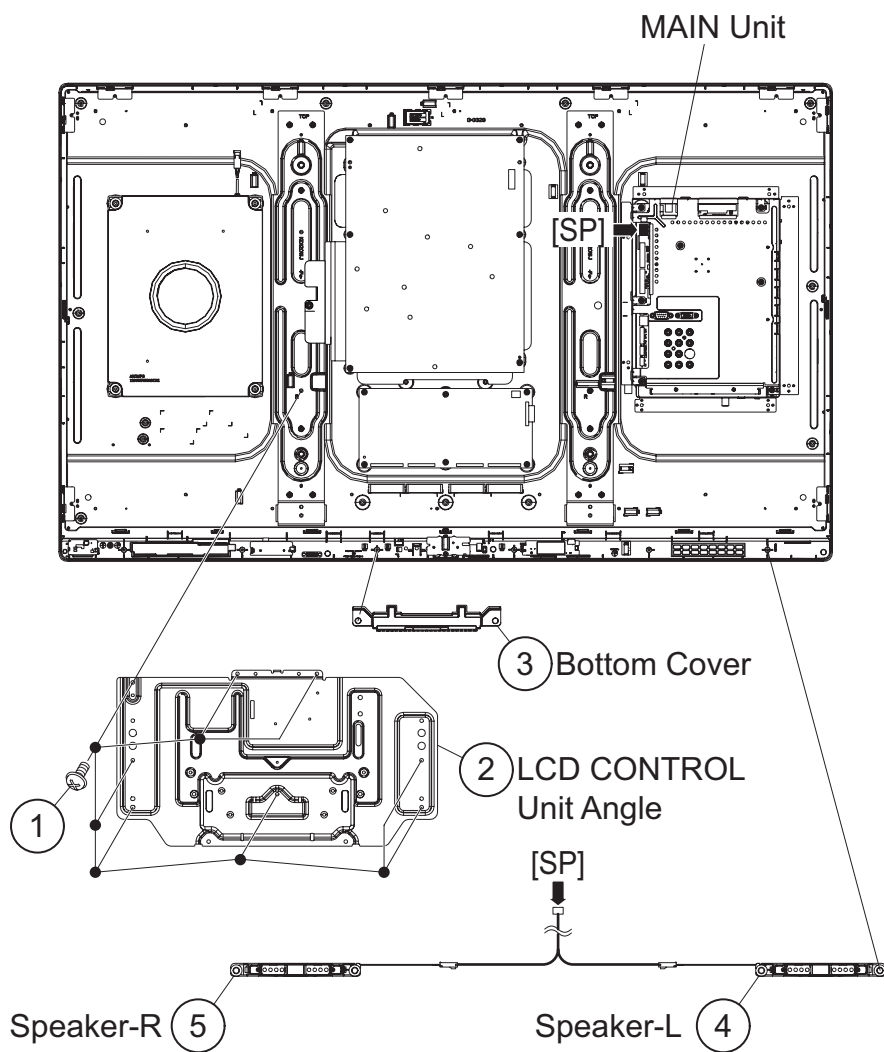
1. Removing of Stand Unit and Rear Cabinet Ass'y.

1. Remove the 1 lock screw ① and detach the Stand Support Cover ②.
2. Remove the 4 lock screws ③ and detach the Stand Unit ④.
3. Remove the 1 lock screw ⑤ and detach the AC Cord Cover ⑥.
4. Disconnect the AC wire and detach the AC Cord ⑦.
5. Remove the 4 Vesa Hole Covers ⑧, 7 lock screws ⑨, 2 lock screws ⑩ and 12 lock screws ⑪ and detach the Rear Cabinet Ass'y ⑫.



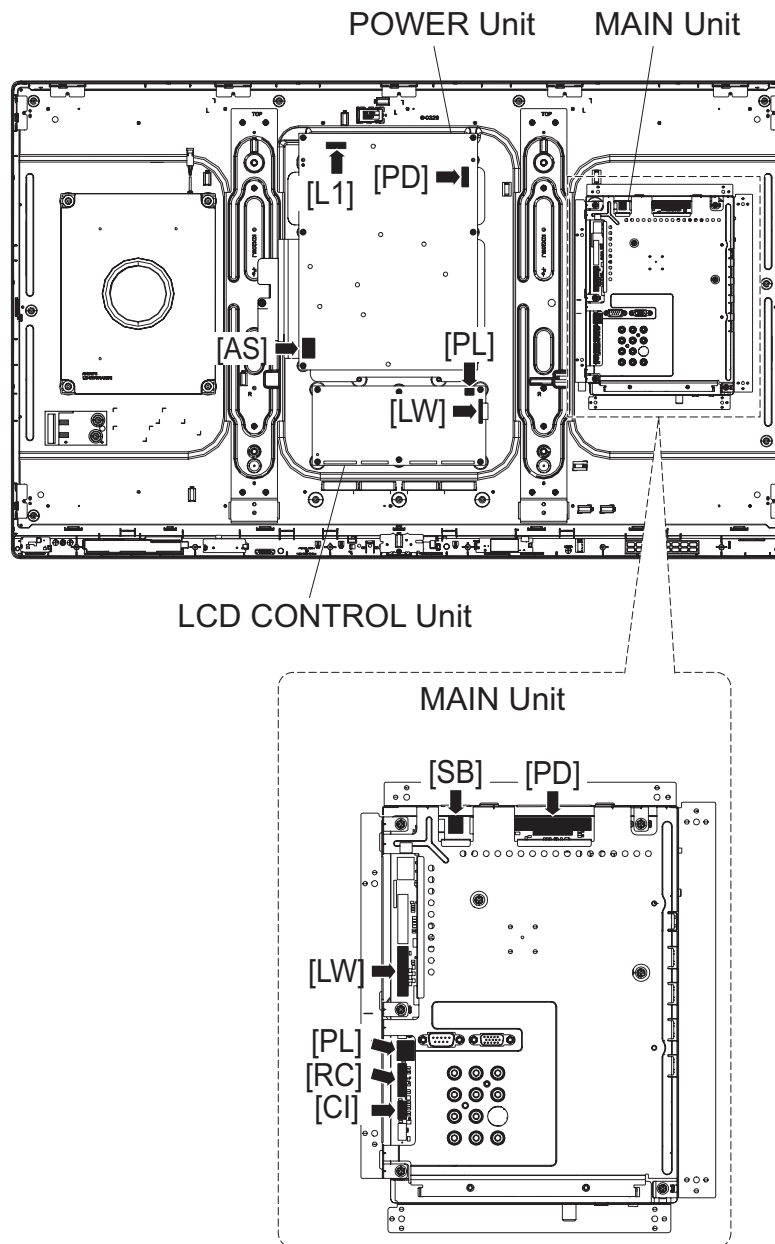
2. Removing of Speaker-L/R.

1. Remove the 8 lock screws ① and detach the LCD CONTROL Unit Angle ②.
2. Detach the Bottom Cover ③.
3. Disconnect the SP wire.
4. Detach the Speaker-L ④, Speaker-R ⑤.



3. Removing of Connectors

1. Disconnect the following connectors from the MAIN Unit. (SB, PD, LW, PL, RC, CI)
2. Disconnect the following connectors from the POWER Unit. (PD, L1, AS)
3. Disconnect the following connectors from the LCD CONTROL Unit. (LW, PL)

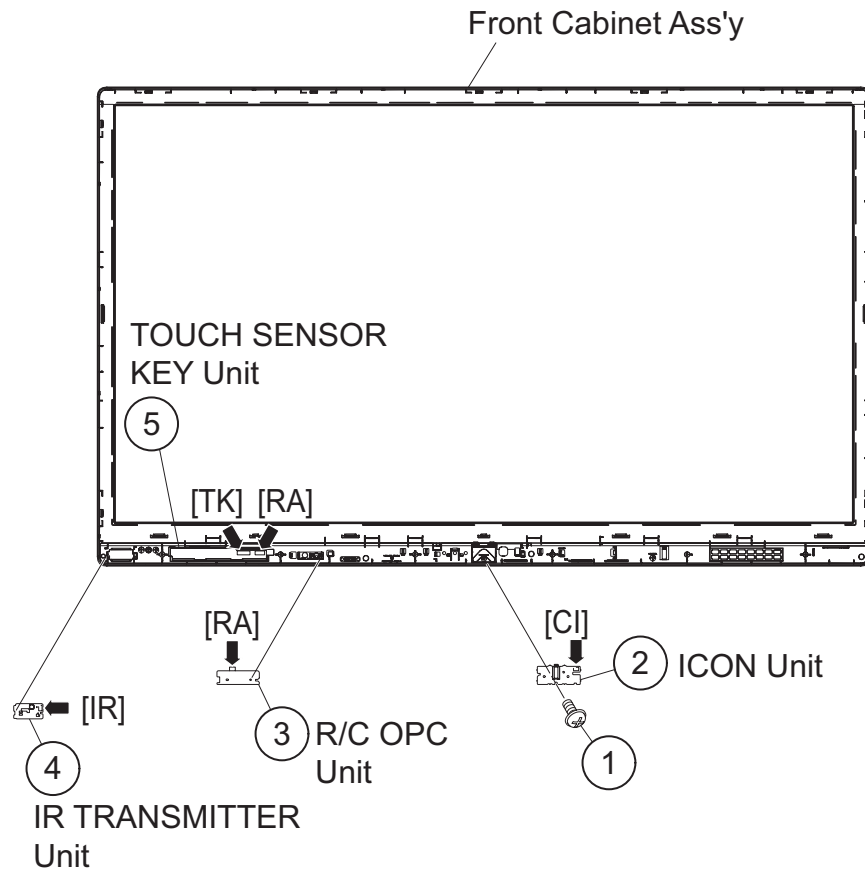


-
- This diagram illustrates the assembly of the LCD panel, showing the following components and their assembly sequence:
- 1** Speaker (Woofer)
 - 2** LCD Fixing Angle
 - 3** Hook
 - 4** 46" LCD Panel Module Unit
 - 5** Main Shield
 - 6** Main Shield
 - 7** MAIN Unit
 - 8** MAIN Unit
 - 9** Terminal Angle (Bottom)
 - 10** Terminal Angle (Bottom)
 - 11** [SB]
 - 12** POWER Unit
 - 13** Insulation Sheet
 - 14** Center Angle-R
 - 15** Center Angle-L
 - 16** Center Angle-R
 - 17** Connecting Cord
 - 18** Ferrite Core
 - 19** LCD CONTROL Unit
 - 20** LCD CONTROL Unit
 - 21** Earth Spring
 - 22** Connector Cord with Eco Switch
 - 23** [AS]

5. Removing of ICON Unit, R/C OPC Unit, IR TRANSMITTER Unit, TOUCH SENSOR KEY Unit.

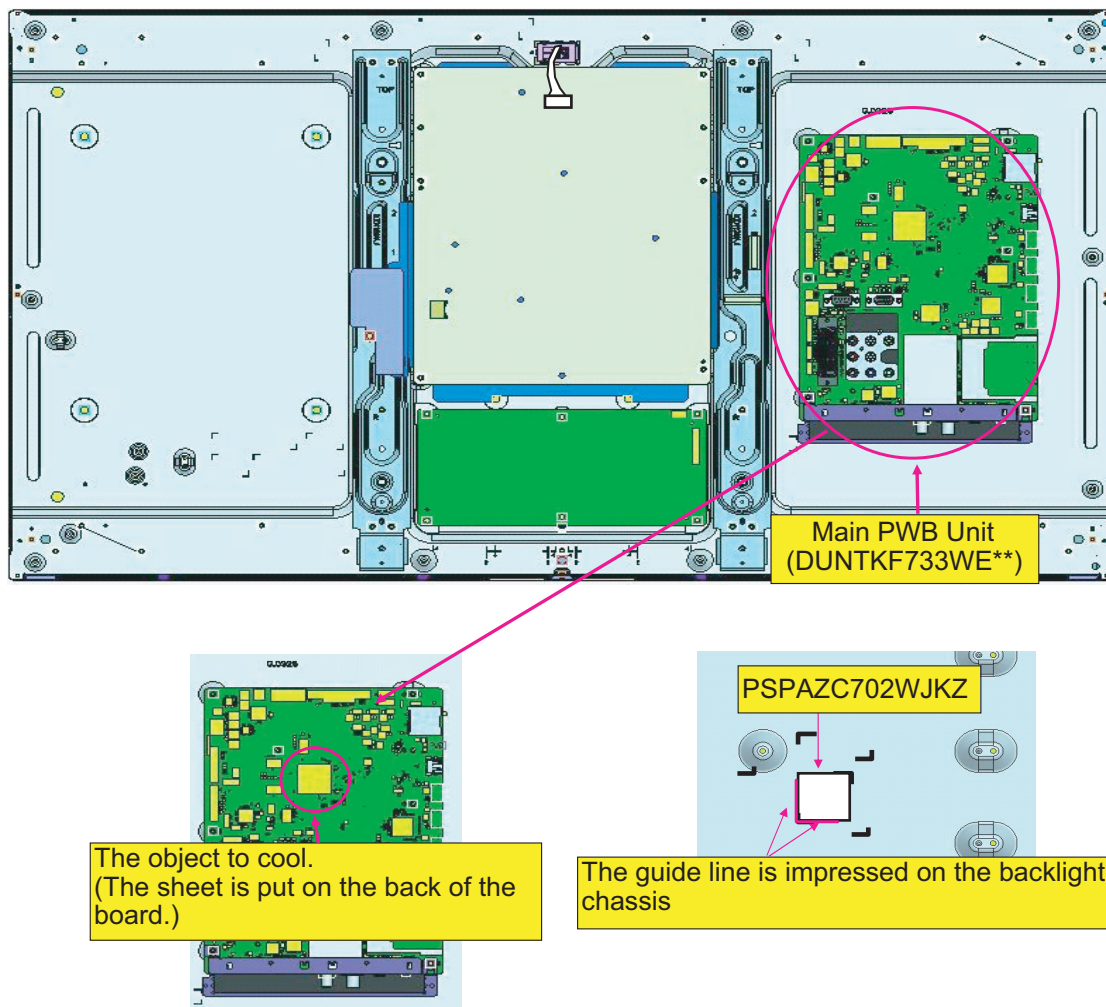
1. Remove the 1 lock screw ① and detach the ICON Unit ②.
2. Detach the R/C OPC Unit ③.
3. Detach the IR TRANSMITTER Unit ④.
4. Detach the TOUCH SENSOR KEY Unit ⑤.

NOTE: The TOUCH SENSOR KEY unit ⑤ reuse will be impossible, once it is stuck on front cabinet and exfoliates.

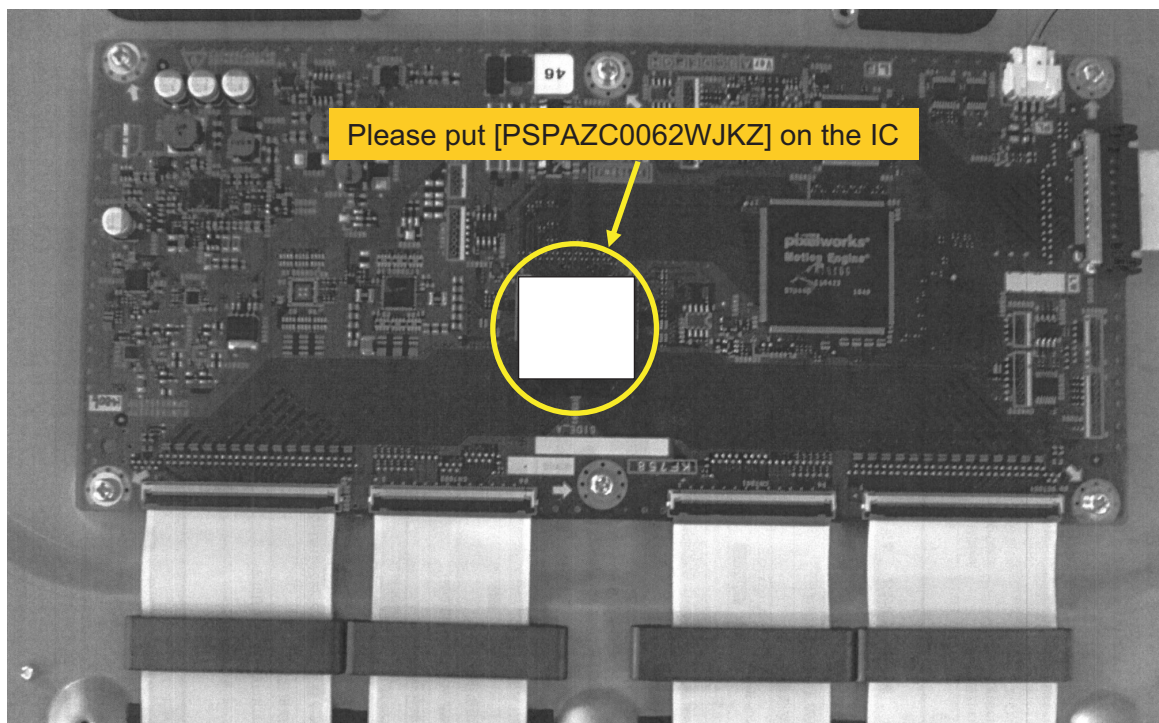
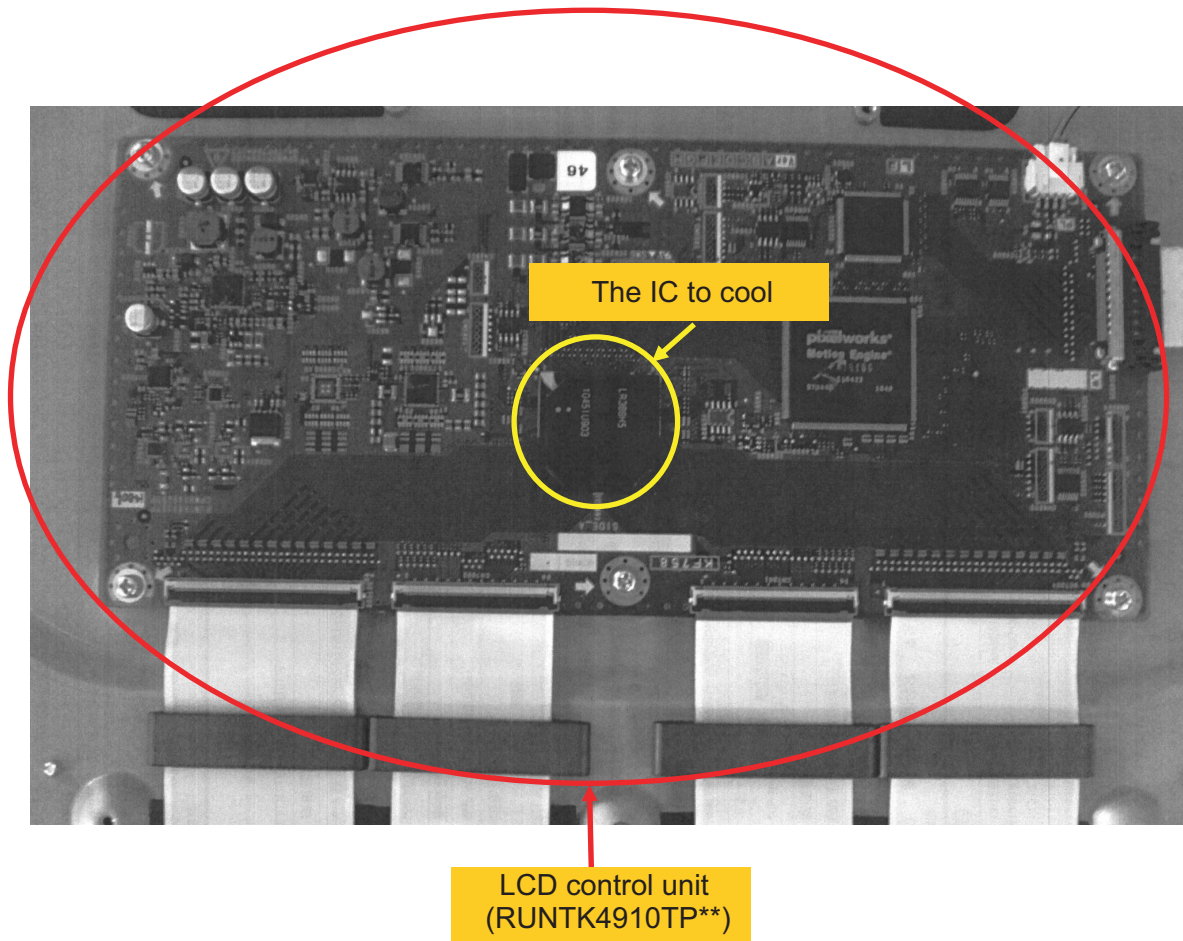


[3] The location putting on the heat measure sheet

1. MAIN PWB Unit



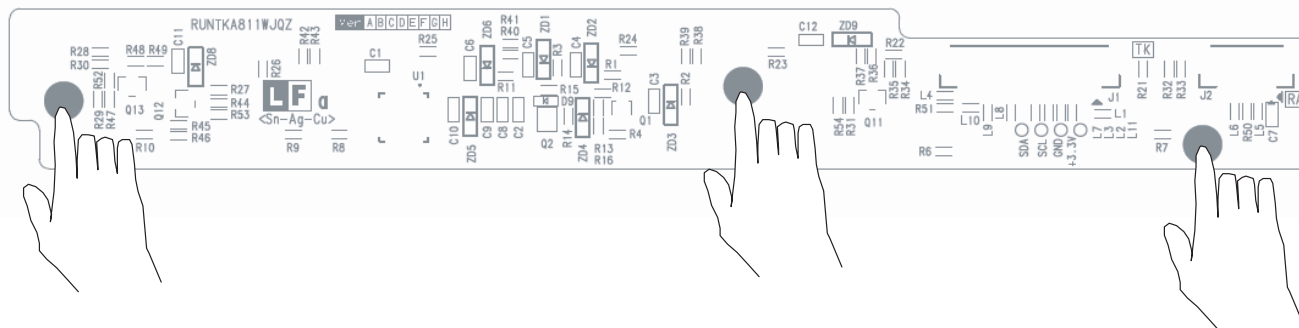
2. LCD Control Unit



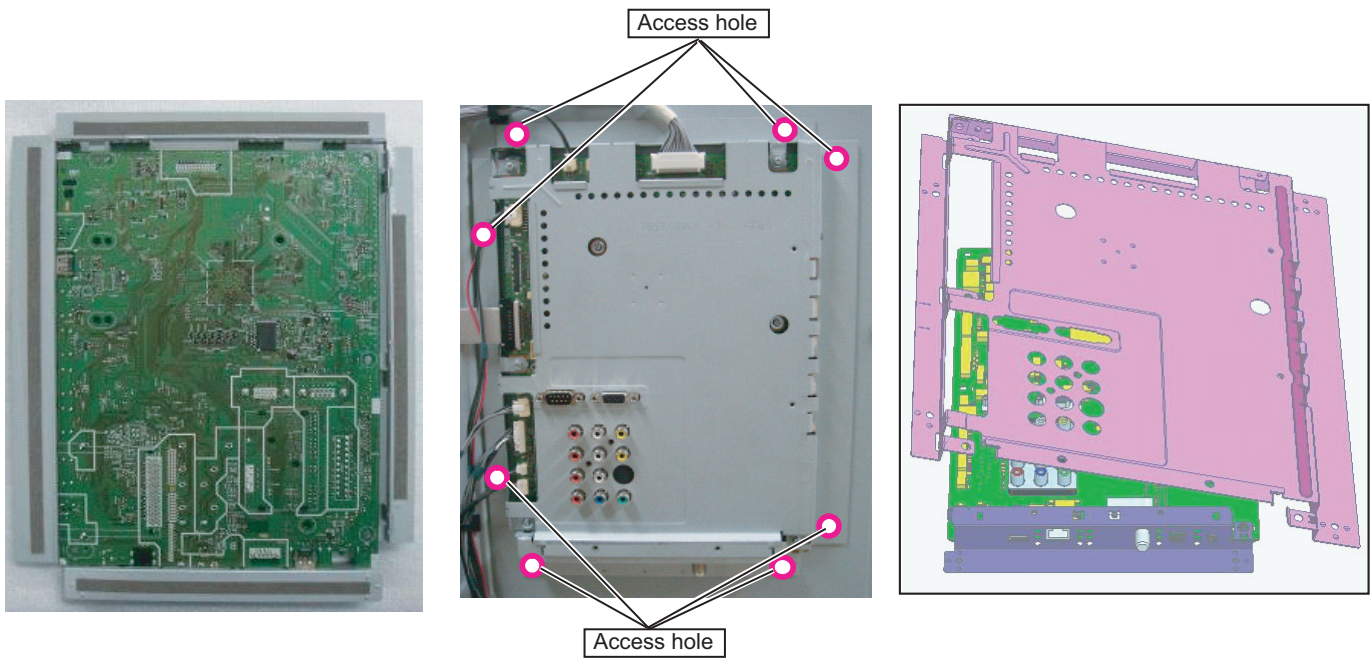
[4] Precautions for assembly

1. Attaching the touch sensor

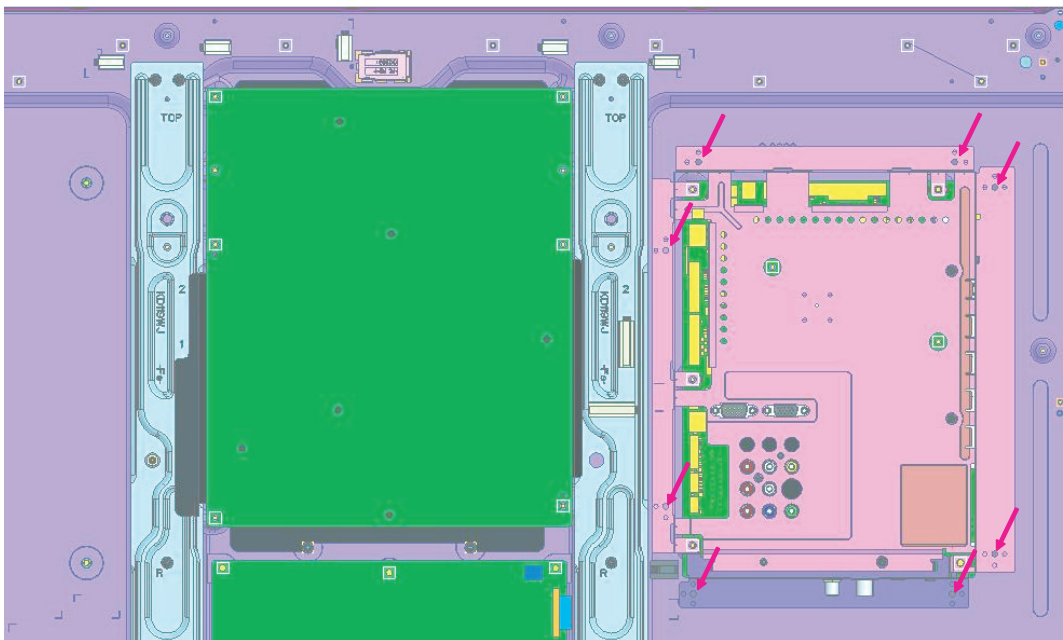
1. After removing the release paper, attach the touch sensor keeping out dust and dirt.
2. Press the 3 circular silk positions on the PWB to fix the touch sensor. There is no problem if the pressing positions are slightly misaligned. However, do not press the connectors directly since they are very easy to break.



State where the main PWB and shielded case are assembled



The following is a drawing mounting the main PWB Ass'y on the backlight chassis. (The parts indicated by -> are the access holes for confirmation.)
 (Main PWB Ass'y => State where the shielded case and RF terminal angle are mounted on the main PWB)



[5] The way of detaching Rear Cabinet

- Here are the way of detaching Rear Cabinet. Please respond in following order.

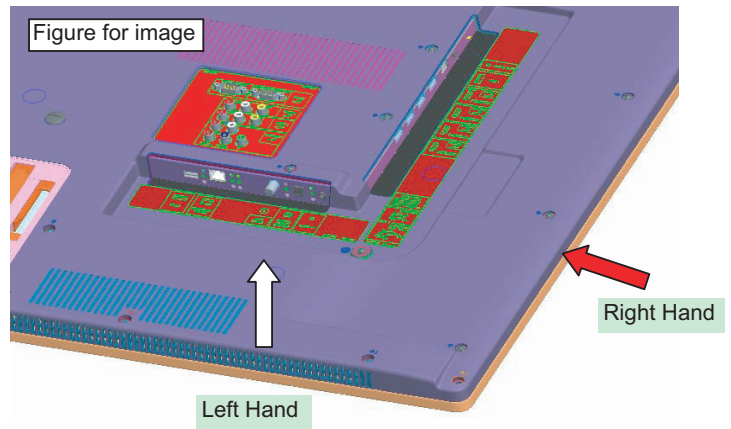
1. Lay the TV set down on the desk or table with the glass side down, set the left hand between Front Cabinet and Rear Cabinet on the bottom of right corner side.



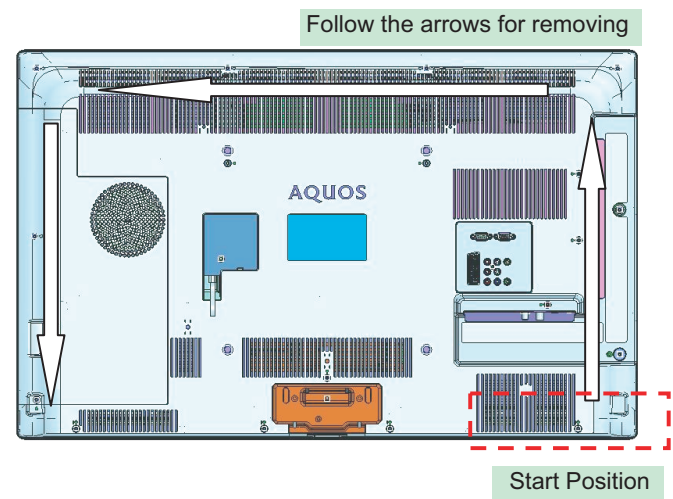
2. Set the right hand between Front Cabinet and Rear Cabinet on the right side in the under corner.



3. Push Rear Cabinet toward the center of TV set with right hand. At the same time, open Rear Cabinet in the back side with left hand and detach the hook.



4. Detach the hooks one by one in a counterclockwise direction with changing the position of right hand.



CHAPTER 5. ADJUSTMENT

[1] ADJUSTMENT PROCEDURE

1. Adjustment method after PWB and/or IC replacement due to repair

The unit is set to the optimum at the time of shipment from the factory.

If any value should become improper or any adjustment is necessary due to the part replacement, make an adjustment according to the following procedure.

1. Procure the following units in order to replace the main unit.

MAIN UNIT: DKEYDF733FM51 (LC-40/46LE830E, RU)

MAIN UNIT: DKEYDF733FM52 (LC-40/46LE831E, S)

NOTE: [Caution when replacing IC (IC2001) in the main unit]

The above IC are Monitor microcomputer.

Before replacing the relevant part, procure the following parts in which the data have been rewritten.

IC2001	RH-iXD241WJN2Q	Monitor microcomputer
--------	----------------	-----------------------

NOTE: [Caution when replacing ICs (IC8401, IC3303) in the main unit]

When replacing either IC8401 or IC3302, exchange MAIN units for DKEYDF733FM51 (LC-40/46LE830E, RU), DKEYDF733FM52 (LC-40/46LE831E, S).

Each part should not be individually exchanged.

IC8401	RH-iXD287WJQZQ	Flash
IC3303	RH-iXD220WJQZQ	Main CPU

NOTE: HDMI ROM Writing

After replacing IC1504, execute "HDMI EDID WRITE" on the page 5/24.

Please execute it after checking MODEL NAME & INCH SIZE. are correct.

If MODEL NAME & INCH SIZE. are not correct, set them previously. (Refer to 2.)

The ROM data based on information of MODEL NAME & INCH SIZE.

- 1) Enter the process adjustment mode in TV.
 - 2) Use the cursor keys (▲/▼) and CH keys (↖/↗) of R/C to select the item [HDMI EDID WRITE] on the page 5/24.
 - 3) It is completed with OK displayed.
2. After replacing the LCD panel or LCD control/MAIN UNIT, check MODEL NAME in the following procedure.
 - 1) Enter the process adjustment mode in TV.
 - 2) Use the cursor keys (▲/▼) and CH keys (↖/↗) of R/C to select the item [MODEL NAME] on the page 24/24.
 - 3) Verify that the Model name is displayed.
 - 4) If the Model name doesn't match, select the values of the Model name with the VOL keys (+/-).
 - 5) After selection in Step 4), press the OK key, and it is completed with OK displayed.
 - 6) Use the cursor keys (▲/▼) and CH keys (↖/↗) of R/C to select the item [PANEL_SIZE] on the page 24/24.
 - 7) Verify that the panel size is displayed.
 - 8) If the size doesn't match, select the values of the panel size with the VOL keys (+/-).
 - 9) After selection in Step 8), press the OK key, and it is completed with OK displayed.
 - 10) After setting [MODEL NAME] [PANEL_SIZE], unplug the AC power cord and plug it back in.
 3. After replacing the LCD panel or LCD control PWB, adjust the VCOM in the following procedure.
 - 1) Enter the process adjustment mode.
 - 2) Use the cursor keys (▲/▼) and CH keys (↖/↗) of R/C to select the item [VCOM ADJ] on the page 10/24.
 - 3) Press the OK key to verify that the adjustment pattern is displayed.
 - 4) Use VOL keys (+/-) of R/C to adjust the flicker in the center of the screen to minimum.
 - 5) When the optimal state is achieved in Step 4), press the OK key to turn the pattern to OFF.

2. Notes of Touch sensor key unit

Touch sensor key unit (RUNTKA869WJQZ) is fixed directly in Front Cabinet.

The unit cannot never be recycled when exfoliated from Front Cabinet.

Therefore, please exchange the touch sensor units when Front Cabinet is changed.

3. Method of shuts down for Power supply

Please execute the following procedures to shut down Power supply from the state of normal operation.

- 1) Keep touching the power supply key on the set for 5 seconds from the state of watching.
 - * The screen disappears when power supply key is touched, but Keep pushing the power supply key.
- 2) A central icon lights between 500ms when the power supply shuts down.

Please separate the finger from the power supply key when lighting of a central icon is confirmed.

4. Entering and exiting the adjustment process mode

Please execute the following procedures to enter the adjustment process mode when the power supply shuts down.

- 1) While holding down the "VOL (-)" and "INPUT" keys on the set at once, touch the power supply key on the set.

Please separate the fingers from key on the set when boot-up is confirmed with lighting of a central icon etc.

After a while, The letter "K" appears on the screen. This state is in Inspection mode.
- 2) Next, hold down the "VOL (-)" and "CH (↙)" keys on the set at once.

Multiple lines of blue characters appearing on the screen indicate that the set is now in the adjustment Process mode.

If you fail to enter the adjustment process mode (the display is the same as normal startup), retry the procedure.
- 3) To exit the adjustment process mode after the adjustment is done, unplug the AC power cord to force off the power.

(When the power is turned off with the remote controller, once unplug the AC power cord and plug it in again. In this case, wait for 20 seconds or so after unplugging.)

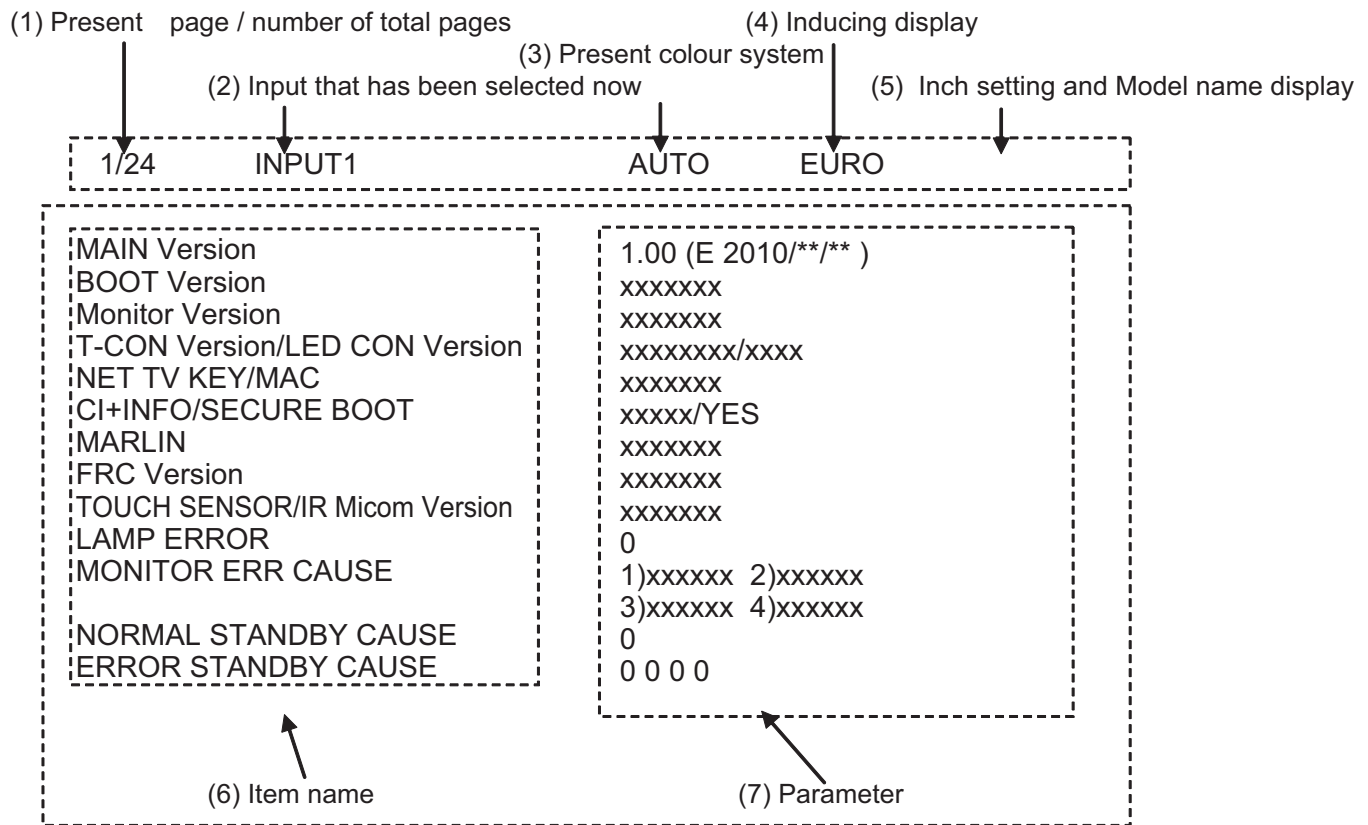
CAUTION: Use due care in handling the information described here lest the users should know how to enter the adjustment process mode. If the settings are tampered with in this mode, unrecoverable system damage may result.

5. Remote controller key operation and description of display in adjustment process mode

1. Key operation

Remote controller key	Main unit key	Remote controller key Main unit key Function
CH keys (↙ / ↗)	CH (↙ / ↗)	Moving an item (line) by one (UP/DOWN)
VOL keys (+/-)	VOL (+/-)	Changing a selected item setting (+1/-1)
Cursor (▲ / ▼)	—	Turning a page (PREVIOUS/NEXT)
Cursor (◀ / ▶)	—	Changing a selected line setting (+10/-10)
INPUT	INPUT	Input source switching (toggle switching) (TV→EXT1→ etc...)
OK	—	Executing a function
RETURN	—	Returning to a present page

Input mode is switched automatically when relevant adjustment is started so far as the necessary input signal is available.

6. Description of display

No.	Description	Display specification
(1)	Present page/number of total pages	2char/2char Decimal Number mark.
(2)	Input that has been selected now	TUNER/DTV/INPUT1/INPUT2/INPUT3/INPUT5/INPUT6/INPUT7/etc. ...
(3)	Present colour system	AUTO/N358/N443/PAL/SECAM/480i/580i/1080i/50 etc. ...
(4)	Inducing display	EUROPE/RUSSIA/SWEDEN
(5)	Inch setting and Model name display	Inch setting and Model name display
(6)	Item name	Max. 30 char
(7)	Parameter	Max. 60 char

7. List of adjustment process mode menu

The character string in brackets [] will appear as a page title in the adjustment process menu header.

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
1/24				
	1	MAIN Version	1xxx (xxxxx)	Main software version
	2	BOOT Version	xxxxxxx	BOOT Version.
	3	Monitor Version	xxxxxxx	Monitor software version
	4	T-CON Version/LED CON Version	xxxxxxx/xxxx	T-CON/LED CON Version
	5	NET TV KEY/MAC	xxxxxxx	NET TV KEY/MAC Address
	6	CI+INFO/SECURE BOOT	xxxxx/YES	CI+ Key Information/SECURE BOOT
	7	MARLIN	xxxxxxx	
	8	FRC Version	xxxxxxx	
	9	TOUCH SENSOR/IR Micom Version	xxxxxxx	
	10	LAMP ERROR	0	Number of termination due to lamp error.
	11	MONITOR ERR CAUSE	1)xxxxxx 2)xxxxxx 3)xxxxxx 4)xxxxxx	Last error standby cause.
	12	NORMAL STANDBY CAUSE	0	Situation that became standby at the end. (Excluding the error)
	13	ERROR STANDBY CAUSE	0 0 0 0	Error standby cause
2/24				
	1	INDUSTRY INIT	Enter	Initialization to factory settings execution.
	2	INDUSTRY INIT (-Public)	OFF	Initialization to factory settings execution. (Public mode is excluded)
	3	PUBLIC MODE	OFF	Public mode ON/OFF setting
	4	Center Acutime	—	Main operating hours.
	5	RESET	OFF	Main operating hours reset.
	6	Backlight Acutime	—	Backlight operating hours.
	7	RESET	OFF	Backlight operating hours reset.
	8	LAMP ERROR RESET	OFF	Lamp error reset.
	9	ADJ PARAM SET	Enter	ADJ PARAM SET
	10	VIC XPOS	0	X-coordinate setting for VIC READ
	11	VIC YPOS	0	Y-coordinate setting for VIC READ
	12	VIC SIGNAL TYPE	MAIN	Signal type setting for VIC READ
	13	VIC READ	OFF	Picture level acquisition function (Level appears in green on the upper right)
3/24				
	1	TUNER ADJ	Enter	TUNER auto adjustment execution
	2	PAL+TUNER ADJ	Enter	PAL TUNER auto adjustment execution
	3	TUNER ADJ (SMPTE)	Enter	TUNER auto adjustment execution (SMPTE)
	4	PAL+TUNER ADJ (SMPTE)	Enter	PAL TUNER auto adjustment execution (SMPTE)
	5	TUNER ADJ (SMPTE CH57)	Enter	TUNER auto adjustment execution (SMPTE CH57)
	6	PAL+TUNER ADJ (SMPTE CH57)	Enter	PAL TUNER auto adjustment execution (SMPTE CH57)
	7	TUNER CONTRAST A_GAIN	14	TUNER signal level adjustment
	8	TUNER CONTRAST D_GAIN	2048	TUNER signal level adjustment
	9	TUNER CONTRAST OFFSET	256	TUNER signal level adjustment
4/24				
	1	PAL ADJ	Enter	PAL adjustment
	2	SECAM ADJ	Enter	SECAM adjustment
	3	N358 ADJ	Enter	N358 adjustment
	4	PAL CONTRAST A_GAIN	14	PAL contrast adjustment
	5	PAL CONTRAST D_GAIN	2048	PAL contrast adjustment
	6	PAL CONTRAST OFFSET	256	PAL contrast adjustment
	7	SECAM CONTRAST A_GAIN	14	SECAM contrast adjustment
	8	SECAM CONTRAST D_GAIN	2048	SECAM contrast adjustment
	9	SECAM CONTRAST OFFSET	256	SECAM contrast adjustment
	10	N358 CONTRAST A_GAIN	14	N358 contrast adjustment
	11	N358 CONTRAST D_GAIN	2048	N358 contrast adjustment
	12	N358 CONTRAST OFFSET	256	N358 contrast adjustment
5/24				
	1	HDMI CEC TEST	Enter	HDMI CEC test
	2	HDMI EDID WRITE	Enter	HDMI EDID WRITING
	3	INSPECT USB TERM	Enter	Reading inspection of USB memory terminal
	4	MONIDATA READ [TEMP/OPC]	OFF	MONITOR Temperature/OPC Acquisition tool.
	5	SD CARD TEST	Enter	SD CARD TEST
	6	CAUSE RESET	Enter	Reset of standby cause

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
6/24				
	1	COMP15K ALL ADJ	Enter	Component 15K picture level adjustment
	2	COMP15K MAIN Y GAIN	140	Y GAIN adjustment value
	3	COMP15K MAIN CB GAIN	150	Cb GAIN adjustment value
	4	COMP15K MAIN CR GAIN	150	Cr GAIN adjustment value
	5	COMP15K Y OFFSET	64	Y OFFSET adjustment value
	6	COMP15K CB OFFSET	128	Cb OFFSET adjustment value
7/24				
	1	HDTV ADJ	Enter	HDTV video level adjustment
	2	HDTV Y GAIN	140	HDTV Y GAIN adjustment value
	3	HDTV CB GAIN	150	HDTV Cb adjustment value
	4	HDTV CR GAIN	150	HDTV Cr adjustment value
	5	HDTV Y OFFSET	64	HDTV Y OFFSET adjustment value
	6	HDTV CB OFFSET	128	HDTV Cb OFFSET adjustment value
8/24				
	1	ANALOG PC ADJ	Enter	DVI ANALOG video level adjustment
	2	R OFFSET	64	R CUTOFF adjustment value
	3	G OFFSET	64	G CUTOFF adjustment value
	4	B OFFSET	64	B CUTOFF adjustment value
	5	R GAIN	44	R DRIVE adjustment value
	6	G GAIN	44	G DRIVE adjustment value
9/24				
	1	SCART RGB ADJ	Enter	SCART RGB level adjustment
	2	SCART RGB ADJ (FASTSW)	Enter	SCART RGB ADJ (FASTSW) adjustment
	3	SCART R CUTOFF	64	SCART R CUTOFF adjustment value
	4	SCART G CUTOFF	64	SCART G CUTOFF adjustment value
	5	SCART B CUTOFF	64	SCART B CUTOFF adjustment value
	6	SCART R GAIN	44	SCART R GAIN adjustment value
10/24				
	1	VCOM ADJ	0	Common bias adjustment
11/24				
	1	R GAIN (LO)	0	R DRIVE adjustment value
	2	G GAIN (LO)	0	G DRIVE adjustment value
	3	B GAIN (LO)	0	B DRIVE adjustment value
	4	R GAIN (HI)	0	R DRIVE adjustment value
	5	G GAIN (HI)	0	G DRIVE adjustment value
12/24				
	1	MONITOR TIME OUT	ON	Monitor and the main communication time-out setting
	2	MONITOR MAX TEMP	59	MONITOR MAX temperature setting
	3	MONITOR EEP READ/WRITE	WRITE	MONITOR EEPROM READ/WRITE Setting/execution
	4	MONITOR EEP ADR	0x 0	MONITOR EEPROM arbitrary addressing
13/24				
	1	LCD TEST PATTERN	OFF	Pattern with built-in LCD controller display
	2	LCD TEST PATTERN1	OFF	
	3	LCD TEST PATTERN2	OFF	
	4	LCD TEST PATTERN3	OFF	
14/24				
	1	TCON Version EXT.1	xxxxx	
	2	TCON Version EXT.2	xxxxx	
	3	TCON Version EXT.3	xxxxx	
15/24				
	1	3DHDMI FPGA Version	xxxxx	
	2	2D→3D FPGA Version	xxxxx	
	3	3D IR EMITTER CONTROL	xxxxx	

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
16/24				
	1	POWER LED BRIGHTNESS	0	
	2	MENU LED BRIGHTNESS	0	
	3	INPUT LED BRIGHTNESS	0	
	4	CH UP LED BRIGHTNESS	0	
	5	CH DOWN LED BRIGHTNESS	0	
	6	VOL UP LED BRIGHTNESS	0	
	7	VOL DOWN LED BRIGHTNESS	0	
	8	LOGO LED BRIGHTNESS	99	
	9	ICON LED BRIGHTNESS	99	
	10	ICON LED BRIGHTNESS (STANDBY)	30	
	11	3D LED BRIGHTNESS	30	
17/24				
	1	POWER KEY SENSITIVITY	0	
	2	MENU KEY SENSITIVITY	0	
	3	INPUT KEY SENSITIVITY	0	
	4	CH UP KEY SENSITIVITY	0	
	5	CH DOWN KEY SENSITIVITY	0	
	6	VOL UP KEY SENSITIVITY	0	
	7	VOL DOWN KEY SENSITIVITY	0	
18/24				
	1	KEY STRENGTH GET MODE	Enter	
	2	POWER KEY STRENGTH		
	3	MENU KEY STRENGTH		
	4	INPUT KEY STRENGTH		
	5	CH UP KEY STRENGTH		
	6	CH DOWN KEY STRENGTH		
	7	VOL UP KEY STRENGTH		
	8	VOL DOWN KEY STRENGTH		
19/24				
	1	CROSSTALK ADJ MODE	Enter	
	2	CROSSTALK TH1		
	3	CROSSTALK TH2		
	4	CROSSTALK TH3		
	5	CROSSTALK TH4		
	6	CROSSTALK GAIN1		
	7	CROSSTALK GAIN2		
	8	CROSSTALK GAIN3		
20/24				
	1	WiFi SSID 2.4GHz	xxxxx	
	2	WiFi SSID 5 GHz	xxxxx	
	3	WiFi RSSI 2.4GHz	xxxxx	
	4	WiFi RSSI 5 GHz	xxxxx	
	5	WiFi TIME 5 GHz	xxxxx	
	6	WiFi RSSI TEST	xxxxx	
	7	WiFi RSSI RESULT	xxxxx	
21/24				
	1	READ/WRITE	READ	Read/Write
	2	SLAVE/ADDRESS	SLAVE0	Slave address
	3	REGISTER ADDRESS	0x 0 0x 0	Register address
	4	WRITE DATA	0x 0 0x 0	Writing data
	5	READ DATA	0x 0 0x 0	Reading data
22/24				
	1	RF AGC BG	6	RF-AGC BG adjustment execution
	2	RF AGC DK	5	RF-AGC DKG adjustment execution
	3	RF AGC I	6	RF-AGC I adjustment execution
	4	RF AGC L/L'	4	RF-AGC L/L' adjustment execution

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
23/24	1	ERROR STANDBY CAUSE1	NO RECORD	ERROR STANDBY CAUSE
	2	ERROR STANDBY CAUSE2	NO RECORD	
	3	ERROR STANDBY CAUSE3	NO RECORD	
	4	ERROR STANDBY CAUSE4	NO RECORD	
	5	ERROR STANDBY CAUSE5	NO RECORD	
	6	STANDBY CAUSE RESET	OFF	Reset stand by cause.
24/24	1	EEP SAVE	OFF	Writing setting values to EEPROM.
	2	EEP RECOVER	OFF	Reading setting values from EEPROM.
	3	MONITOR ERROR CAUSE RESET	OFF	Reset of monitor error cause
	4	MODEL NAME	LE830E	MODEL NAME
	5	PANEL SIZE	46	Panel size setting.
	6	PANEL LIMIT	ON	PANEL LIMIT
	7	PANEL RANGE LIMIT	xxx	PANEL RANGE LIMIT
	8	SHORT CHECK MODE	Enter	Check LED Back light
	9	SHORT CHECK CURRENT	60	
	10	CURRENT SW	LOW	
	11	PRODUCT EEP ADR	0x 0	Don't touch when serving (for producer of factory)
	12	PRODUCT EEP DATA	0x 0	Don't touch when serving (for producer of factory)
	13	PRODUCT FACTORY	1	Don't touch when serving (for producer of factory)

8. Special features

1. NORMAL STANDBY CAUSE (Page 1/24)

Display of a cause (code) of the last standby.

The cause of the last standby is recorded in EEPROM whenever it is possible.

Checking this code will be useful in finding a problem when you repair the troubled set.

2. EEP SAVE (Page 24/24)

Storage of EEP adjustment value.

3. EEP RECOVER (Page 24/24)

Retrieval of EEP adjustment value from storage area.

4. MONITOR ERR CAUSE (Page 1/24)

Display of a cause (code) of Error from Monitor microcomputer.

The cause of Error is recorded in EEPROM whenever it is possible.

Checking this code will be useful in finding a problem when you repair the troubled set.

1) This displays Error code and time when the error occurred.

The latest error is displayed on "1)".

The error that happens ahead of "1)" is displayed on "2)".

2) The character depends on the way how to acquire Time Information.

T: Time is acquired from digital broadcasting

This doesn't contain "Time offset" which is considered a time difference and Daylight-Saving Time, etc. ...

U: Time is acquired from analog broadcasting (teletext)

B: Accumulation time of Backlight

In the case that Time information cannot be acquired, "B" is displayed.

Example) In this example, it is shown that the error occurred 3 times.

- | | | |
|-----------------------|---|---|
| 1) 16 T07/01/01 12:03 | Error code: 16 (lamp error) | Time: 07/01/01 12:03 |
| | * It is latest Error. | |
| | * Time is acquired from digital broadcasting. | |
| | * Time is UTC which doesn't have Time offset. | |
| 2) 16 U01/01/01 04:07 | Error code: 16 (lamp error) | Time: 07/01/01 04:07 |
| | * It is Error that happens ahead of "1)". | |
| | * Time is acquired from analogue broadcasting. | |
| 3) 16 B00000004:11 | Error code: 16 (lamp error) | Accumulation time: It is displayed that 4:11 have passed after Backlight driving. |
| | * It is Error that happens ahead of "2)". | |
| 4) 00 00000000000000 | No error ("00" shows that the error is not occurred.) | |

9. Lamp Error detection

1. Function

This LCD color TV set incorporates a Lamp error detection feature that automatically turns off the power for safety under abnormal lamp or lamp circuit conditions. If by any chance anything is wrong with the lamp or lamp circuit or if the lamp error detection feature is activated for some reason, the following will result.

- 1) The power is interrupted in about 500ms after it is turned on.
(A central icon on the front of the TV flash on and off.: ON for 400ms and OFF for 1600ms.)
- 2) If the above phenomenon 1) occurs 5 times, it becomes impossible to turn on the power.
(A central icon keep flashing on/off.)

2. Measures

- 1) Set the lamp error detection to OFF

Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode".

The adjustment process mode can ignore "5 times count", so If the above phenomenon 1) occurs 1~4 times, the lamp will go out.

If Lamp Error detection pin [4pin of PD: P9602/19pin of IC2001] is "High" by a trouble with the lamp and lamp circuit, it can boot-up by the adjustment process mode.

Please execute "**Lamp Error detection off-mode**".

While holding down the "VOL (-)" and "CH (∧)" keys on the set at once, touch the power supply key on the set.

After a central icon flash off, separate the fingers from key on the set.

Then, you can check the operation to see if the lamp and lamp circuit are in trouble.

If you fail boot-up, retry the procedure.

- 2) Resetting the lamp error count

After the lamp and lamp circuit are improved from a trouble, reset the lamp error count.

(Because the power cannot be turned on, if a lamp error is detected 5 consecutive times.)

- a) Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode".
- b) Using the cursor (▲/▼) key, move to the cursor to [LAMP ERROR RESET], Line 8 on adjustment process mode service page 2/24.
- c) With the cursor (◀/▶) keys, select the [LAMP ERROR RESET] value.
Finally press the cursor (OK)., the count is reset.
Check LAMP ERROR Count on adjustment process mode Page 2/24.

Table of contents of adjustment process mode Page 2/24

INDUSTRY INIT	Enter	
INDUSTRY INIT (-Publicl)	OFF	
PUBLIC MODE	OFF	
Center Acutime	—	
RESET	OFF	
Backlight Acutime	—	
RESET	OFF	
LAMP ERROR RESET	OFF	← Resetting to "0"
ADJ PARAM SET	Enter	
VIC XPOS	0	
VIC YPOS	0	
VIC SIGNAL TYPE	MAIN	
VIC READ	OFF	

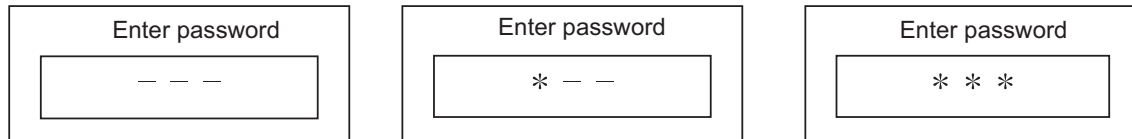
10. Public Mode

1. Starting the Public Mode

- There are two following ways to display the PUBLIC Mode setting screen.

1) Method of needing password

- Turn off the power, refer to "3. Method of shuts down for Power supply".
- While holding down the "INPUT" and "Volume (+)" keys on the set at once, touch the power supply key on the set.
Please separate the finger from the power supply key when boot-up is confirmed with lighting of a central icon etc.
After a while, value of Enter password appears on the screen.
- Display the Pass Word input screen.



Operation procedure

- The initial input position is the digit at the left end.
 - For the numeric keys "0" to "9" of R/C, key input is accepted.
Input of the other keys is prohibited.
 - Change "—" to "*" by inputting the numeric key at the input position, and shift the input position rightward one digit.
 - When three digits are completely input, the Pass Word is judged.
- Check the Pass Word by inputting three digits.
If the Pass Word "0" "2" "7", it shifts to the PUBLIC Mode setting screen.
In another case, the screen is erased, and it operates in the ordinary mode.

2. Exiting the Public Mode Setting screen

- There are two following ways to exit the Public Mode setting screen.

1) Turn off the power.

2) Select "Execution" in the PUBLIC_Mode to execute it.

Activate the restart under the set content.

Here, the START input SOURCE setting is excluded since this item is referred to only when the power is turned on.

3. Set value of the Public Mode

- When the shipment setting is done, a set each value in Public Mode is initialized.
(PUBLIC MODE in the process mode Setting of a flag is also initialized)
- Separately, the shipment beginnings when all except for each set value in Public Mode is initialized are provided for a process mode.
(INDUSTRY INIT (-Public))
- Only when turning on the PUBLIC MODE item, each setting is effective.
- After it decides it with EXECUTE, it AC OFF/ON it to reflect a set value.

4. Basic operation in the Public Mode

Vol (+/-) or Cursor (◀/▶)	Change or execution of the set value.
CH (+/-) or Cursor (▲/▼)	Movement to the selected item.
Decision (ok)	Excution (Used by the items "Execution" and "RESET".)

Public Mode setting screen.

Public Mode	
POWER ON FIXED	[VARIABLE]
SHUT DOWN MODE	[NORMAL]
MAXIMUM VOLUME	[60]
VOLUME FIXED	[VARIABLE]
VOLUME FIXED LEVEL	[20]
RC BUTTON	[RESPOND]
PANEL BUTTON	[RESPOND]
MENU BUTTON	[RESPOND]
AV POSITION FIXED	[VARIABLE]
ON SCREEN DISPLAY	[YES]
INPUT MODE START	[NORMAL]
INPUT MODE FIXED	[VARIABLE]
LOUD SPEAKER	[ON]
RC PATH THROUGH	[OFF]
232C POWON	[DISABLE]
PUBLIC MODE	[ON]
RESET	
EXECUTE	

5. Operation after "RESET"

Select "RESET" in the PUBLIC Mode, and it operates as follows when it is executed (refer to the basic operation).

- The set contents in the PUBLIC mode are initialized.
- It does not exit the PUBLIC mode.
- If "EXECUTE" is not executed, the content that does RESET is not reflected.

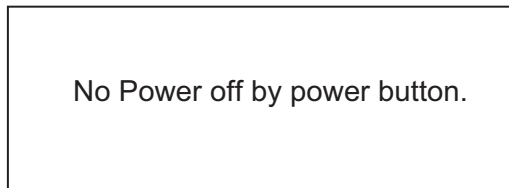
6. Setting items. (* Item names and selective items are expressed in English.)

1) Power ON fixed [POWER ON FIXED]

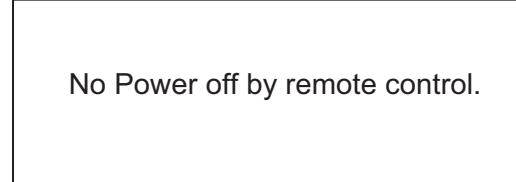
Option	"VARIABLE", "FIXED_ALL", "FIXED_BODYKEY" or "RCRESPOND" (loop enabled)
Default	"VARIABLE"
Function	• VARIABLE : "POWER/RECEPTION" key on TV unit or remote control is enabled. • FIXED_ALL : "POWER/RECEPTION" key on TV unit or remote control is disabled. • FIXED_BODYKEY : Only the "MAIN POWER" key on TV unit is disabled (The remote control is enabled). • RC RESPOND : The main unit's POWER switch toggles between ON and Standby (the same operation by the remote control).
Key disabled when set other than default	• OFF TIMER (SLEEP) (*Only when setting to FIXED_ALL)
Remarks	• When selecting to "FIXED_ALL", function related standby factors (see below) doesn't work. and not selecting. OFF TIMER (Sleep) No operation OFF No signal OFF (including the power management) * These items does not exist according to the model.

If the power button is pressed in the ordinary mode in setting to "FIXED_ALL" and "FIXED_BODYKEY", the caution is displayed for 5 seconds.

When power button on the main unit is pressed



When power button on R/C is pressed



* The OSD display is an example.

If another ODS is previously displayed, the status is reset (MENU or similar).

2) Instantaneous current shutdown setting in turning off the power [SHUT DOWN MODE]

Option	"NORMAL" or "QUICK"
Default	NORMAL
Function	• This function decides whether scanning digital tuner is enabled or disabled when the power is standby. - NORMAL : Scanning digital tuner is enabled when the power is standby. - QUICK : Scanning digital tuner is disable. It is possible to put into the standby state instantaneously due to power off input, when the power is standby. Immediately, state is a complete standby.
Remarks	In selecting "QUICK", the function does not work for the following items. (selection impossible.) • ON TIMER, QUICK START, DIGITAL FIXED, etc. * These items does not exist according to the model.

3) Volume maximum level [MAXIMUM VOLUME]

Option	0~60 (loop disabled)
Default	60
Function	The volume cannot be increased more than the adjusted value (the main unit's speaker only).
Remarks	• When setting to 59 or less, only the figure is displayed in the normal mode; the volume bar is not displayed. • The volume of the headphones is limited. • The setting is impossible when VOLUME FIXED is set to FIXED.

4) Volume fixed [VOLUME FIXED]

Option	"VARIABLE", "FIXED", "ACCTRL" or "AC/RCCTRL" (loop enabled)
Default	"VARIABLE"
Function	- VARIABLE : The volume is not fixed. - FIXED : The volume is fixed to the value adjusted in the volume fixed level. - AC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in the case of the AC-ON only. - AC/RC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in any case. (AC→ON, remote control→ON, main unit's key→ON)
Exception	In the adjustment process, the volume can be set to any level regardless of this setting.
Disabled key when setting to FIXED	- VOLUME UP/DOWN [both remote control and main unit] - MUTE * Main unit's key is enabled for operating menu.
Remarks	[MAXIMUM VOLUME] has priority to [VOLUME FIXED] * When setting to FIXED, Maximum volume is fixed. - The volume of the headphones is fixed. - When setting to "FIXED", the volume is not displayed in operating Disabled key. - In menu operation, the main unit's keys (Vol (+/-)) are enabled.

5) Volume fixed level [VOLUME FIXED LEVEL]

Option	0~60 (loop disabled)
Default	20
Function	The volume is fixed to the adjusted value (the main unit's speaker only).
Exception	In the adjustment process, the volume can be set to any level regardless of this setting.
Remarks	When [VOLUME FIXED] is set to "VARIABLE", the setting cannot be changed.

6) Remote control operation [RC BUTTON]

Option	"RESPOND", "NORESPOND" or "LIMITED" (loop enabled)
Default	"RESPOND"
Function	The operation of the remote control's keys is set. RESPOND : The remote control's keys in the normal state are enabled. NO RESPOND : The remote control's keys in the normal state are disabled. The POWER key (RECEPTION/STANDBY key) is also disabled. LIMITED : Only a part of keys (CHANNEL, etc.) is enabled and other keys are disabled.
Exception	All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen.
Remarks	The enable keys when setting to "LIMITED" are depended on Model.

7) Main Unit Operation [PANEL BUTTON]

Option	"RESPOND" or "NO RESPOND" (loop enabled)
Default	"RESPOND"
Function	- RESPOND : The main unit's keys are enabled. - NO RESPOND : The main unit's keys are disabled excluding the POWER key (RECEPTION/STANDBY key).
Exception	- The start operation in the adjustment process mode, inspection mode are enabled regardless of this setting. - All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen. - For the models with the MENU key on the main unit, menu operation is possible regardless of the setting during the initial setting when the power is turned on for the first time.

8) Menu operation [MENU BUTTON]

Option	"RESPOND" or "NO RESPOND" (loop enabled)
Default	"RESPOND"
Function	The MENU key on the main unit and remote control is decided whether it is enabled or disabled.
Exception	- RESPOND : The manu key is enabled. - NO RESPOND : The manu key is disabled. : All the keys are enabled regardless of this setting while entering the process mode, inspection mode or Public Mode setting screen.
Disabled key excluding Menu key when setting to not default	All the direct transition keys to menu display. (AUTO PRESET, MANUAL MEMORY and others) * These keys does not exist according to the model.
Remarks	When setting to "NO RESPOND" For the models with the MENU key on the main unit, menu operation is possible regardless of the setting while the initial setting when the power is turned on for the first time.

9) AV position fixed [AV POSITION FIXED]

Option	"VARIABLE" or "FIXED" (loop enabled)
Default	"VARIABLE"
Function	- VARIABLE : AV position is not fixed. - FIXED : AV position is fixed. : The image/sound adjustment items in the menu are fixed in the selected state. : When receiving "AV POSITION" of the remote control, only the actual state is displayed, and setting is not changed.
Remarks	- When receiving the sound select direct keys (AV POSITION key, OPC, DOLBY key, etc.), only the actual state is displayed; no setting is changed. * These keys does not exist according to the model. - The settings for the Public mode are retained after the personal data is initialized, each item for the AV position and image/sound adjustment are not initialized.

10) OSD display [ON SCREEN DISPLAY]

Option	"YES", "NO" or "LIMITED" (loop enabled) "LIMITED" is looped only in case of need (destination).
Default	"YES"
Function	- YES : OSD is displayed. - NO : The following OSD is not displayed. Registration, setting, adjustment menu, channel call, volume bar, and input select. - LIMITED : Only a part of OSD (CH call: "New Information" etc...) is not displayed.
Key which may be enabled (Example of the confus- ing key)	It is OK in the case that simple input select occur or the original state returns soon automatically.
Disabled key when setting to not default	- When setting to "NO", the keys which is related to visibility of the screen and sound cannot be used. STILL IMAGE, SCREEN DISPLAY, OFF TIMER, AV POSITION, BRIGHTNESS SENSOR, SCREEN SIZE SELECT, AUTO PRESET, MANUAL MEMORY, IMAGE SELECT, SOUND SELECT, LANGUAGE, Closed caution * Disabled keys dependeds on the models.
Remarks	- When setting to "NO", ON TIMER (Watching reservation) is cleared. OFF TIMER "SLEEP" is cleared. * These items does not exist according to the model. - When setting to "NO", These Displays (Version-up, Public mode setting screen, Pass Word input screen of Public Mode, the adjustment process mode, K mark of inspection mode) are enabled regardless of this setting.

11) Start mode [INPUT MODE START]

Option	"NORMAL" or "Input source 1 (input selection or channel)" ... (loop enabled)
Default	"NORMAL"
Function	Which kinds of input source or channel is decided when the power turning on. NORMAL : The content of the last memory is followed.
Remarks	- When setting to not Normal, ON TIMER (Watching reservation) has priority. - When setting to "NORMAL", [INPUT MODE FIXED] is set to "VARIABLE" and [INPUT MODE FIXED] is prohibited to select. (selection impossible.)

Example of option: "NORMAL", "TVD (002TV)", "INPUT1", "INPUT2", "INPUT3", "HDMI1", "HDMI2", "HDMI3", "HDMI4".

12) Input fixed [INPUT MODE FIXED]

Option	"VARIABLE", "FIXED", "ACCTRL" or "AC/RCCTRL" (loop enabled)
Default	VARIABLE
Function	VARIABLE : If [INPUT MODE START] is set to Normal, input mode is not fixed. FIXED : When "INPUT MODESTART" is active, it is impossible to switch to another channel or input source. AC CTRL : When "INPUT MODESTART" is active the unit starts at the input mode which is selected when power is turned on in the case of the AC-ON only. AC/RC CTRL : When "INPUT MODESTART" is active the unit starts at the input mode which is selected when power is turned on in any case. (AC→ON, remote control→ON, main util's key→ON)
Disabled key when setting to "FIXED"	CHANNEL (+/-), DIRECT CHANNEL buttons, FLASHBACK, INPUT SELECT, TV/VIDEO, AUTO PRESET, MANUAL MEMORY, i.LINK, DIRECTINPUTSELECT, ATV, DTV, EPG, RADIO etc...
Remarks	- If [INPUT MODE START] is Normal, this function cannot be set. Set to "VARIABLE" automatically. - When setting to "FIXED", The item related to the channel setting and input selection in Menu are not displayed. ON TIMER (Watching reservation) is not active. * These items does not exist according to the model.

13) Speaker ON/OFF selection [LOUD SPEAKER]

Option	"ON" or "OFF" (loop enabled)
Default	ON
Function	ON : The sound from the speakers is output. OFF : The sound from the speakers is not output even if the headphones are not used.
Remarks	- When the VOL (+/-) key is pressed, the mute icon is displayed for 4 seconds. - For the MUTE key and sound-related keys, caution is displayed. - For the headphones, normal operation is possible.

14) Remote control path through [RC PATH THROUGH]

Option	"OFF", "ON: TVRCE" or "ON: TVRCD" (loop enabled)
Default	OFF
Function	The item decide whether the signal received by the remote control's light-receiving section is output to the blankpin (9pin) of RS232C. OFF : This function is not active. ON: TVRCE : This function is active, and remote control is active, too. ON: TVRCD : This function is active, but remote control is not active.
Exception	- In the case of "ON: TV RCD", the start operation in the adjustment process mode, inspection mod are enabled regardless of this setting. - In the case of "ON: TV RCD", all the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public mode setting screen.
Remarks	* Remote control path through does not exist according to the model.

15) 232C power ON control [232C POWON]

Option	"ENABLE" or "DISABLE" (loop enabled)
Default	DISABLE
Function	The item decide whether Power ON by the 232C command is enabled/disabled in the standby state. The same function as 232C command "RSPW". ENABLE : POWR0001 is always enabled. DISABLE : Start-up may be impossible at POWR0001. (If the 232C command reception module is set to OFF, the command is invalid.)

16) Public mode setting [PUBLIC MODE]

Option	"OFF" or "ON" (loop enabled)
Default	OFF
Function	The item decide whether Public mode setting menu are enabled or disabled. The same item as [PUBLIC MODE] in the adjustment process menu. OFF : Public mode is not active. ON : Public mode is active.
Remarks	Each operation of the Public mode is impossible unless this item is set to ON.

11. Copy Mode

1. Starting the Copy Mode

- There are two following ways to display the Copy Mode setting screen.

1) Method of needing password

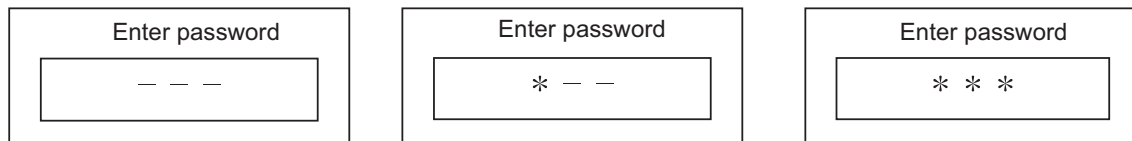
a) Turn off the power, refer to "3. Method of shuts down for Power supply".

b) While holding down the "INPUT" and "Volume (+)" keys on the set at once, touch the power supply key on the set.

Please separate the finger from the power supply key when boot-up is confirmed with lighting of a central icon etc.

After a while, value of Enter password appears on the screen.

c) Display the Pass Word input screen.



Operation procedure

- The initial input position is the digit at the left end.
- For the numeric keys "0" to "9" of R/C, key input is accepted.
Input of the other keys is prohibited.
- Change "—" to "*" by inputting the numeric key at the input position, and shift the input position rightward one digit.
- When three digits are completely input, the Pass Word is judged.

d) Check the Pass Word by inputting three digits.

If the Pass Word "3" "6" "9", it shifts to the Copy Mode setting screen.

In another case, the screen is erased, and it operates in the ordinary mode.

2. Exiting the Copy Mode Setting screen

There is following way to exit the Copy Mode setting screen.

- Turn off the power. (Unplug the AC power cord from the outlet to forcibly turn off the power.)

3. Basic operation in the Copy Mode

CH (+/-) or Cursor (▲/▼)	Movement to the selected item.
Decision (ok)	Execution

4. Restriction of Copy Mode

- USB thumb drive should be more than 1Mbyte.
- File system of USB thumb drive should be FAT (FAT32).
- More than one USB thumb drive shouldn't be connected to TV.
- All USB terminals can be valid, but more than one USB thumb drive shouldn't be connected to TV.
- If USB device is detected by TV, focus is not appropriated to items.
- In Copy mode (TV→USB) and (USB→TV), following should be matched.

Vender Name (Fixed)

Key Information (Fixed)

USB Cline Version

Inch Size

Country setting (Factory initialization)

Model Name

Software Version

- In each TV, setup of Network and IP control should be set again.

NOTE: • It is unnecessary to execute "Initial Auto Instration" for Copy Mode.

(Obviously, setting the country is also unnecessary.)

- Copy Mode can't start until the TV recognizes a USB device.

TV takes about 20 seconds to recognizes a USB device after boot-up.

5. Copy data

Copy data is as follows;

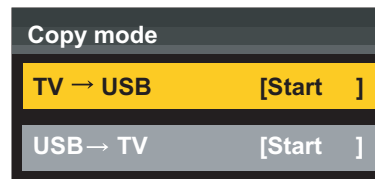
Copy Data	Remarks
Size of Ch call	
Card slot selection Setting	
Alphabet sorts do/not	
HOME/Store Setting	
Public Setting	
Sound multiplex information in each Ch	
Administrative information for Time Shift	Vendor ID, Product ID, Serial ID for storage
Communication's information	IP address, Gateway, DNS address Kinds of Security key encryption (WiFi) Access point identifier (WiFi) Key for access point
IP control setting information	Device name, Login ID, Password, Communication port
DTV service list	Number of all services CH list Number of broadcasting on each network
Last value	Last network information (DVB-T, DVB-S, DVB-C, ATV) Last channel information Volume, wide mode, and subtitle
Local Time Information	Information that corrects $\pm X$ time against Universal Time
User Manu Data	User Menu Data don't have these information. Temporary data Message list, Reception report, EPG, Off timer, Off video, and Signal strength Peculiarity data for TV DRM information for DivX, Mac address, and Accumulated time information Connected equipment information (But the recorder selection of the AQUOS LINK setting can be copied.) physical address Category of equipment Maker Name Connected model name Data related to encrypted broadcasting (CI+) Adjustment process mode Data

6. Operating

1) Copy mode (TV→USB))

- ① Execute start in Copy Mode setting screen.

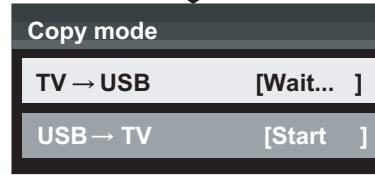
※ If USB device is detected by TV,
focus is not appropriated to items.



↓ Execute

- ② [Wait...] is displayed while executing it.
When succeeding: Done is displayed.
When failing: Failed is displayed.

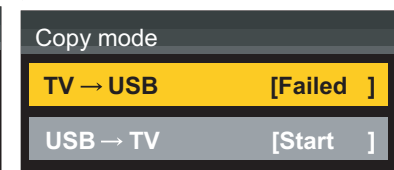
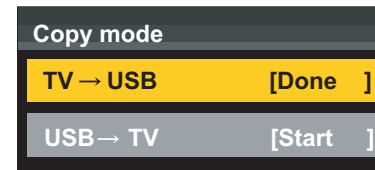
※ Key operation is not valid in coping.



↓ Success

⚡ Fail

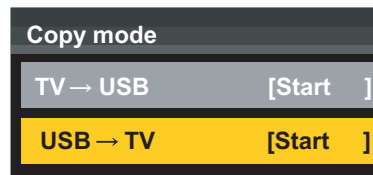
- ③ After success of copy,
unplug the AC power cord from the outlet, please.



2) Copy mode (USB→TV))

- ① Execute start in Copy Mode setting screen.

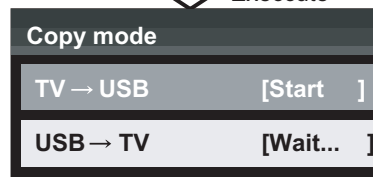
※ If USB device is detected by TV,
focus is not appropriated to items.



↓ Execute

- ② [Wait...] is displayed while executing it.
When succeeding: Done is displayed
When failing: Failed is displayed.

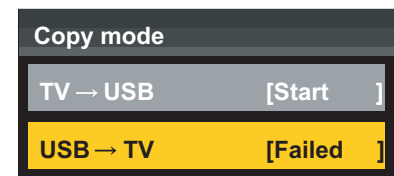
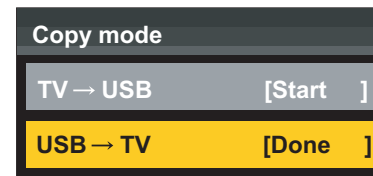
※ Key operation is not valid in coping.



↓ Success

⚡ Fail

- ③ After success of copy,
unplug the AC power cord from the outlet, please.



12. Video signal adjustment procedure

The adjustment process mode menu is listed in Section 5.

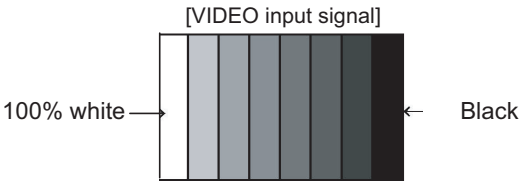
Signal generator level adjustment check. (Adjustment to the specified level)

- Composite signal PAL : 0.7Vp-p $\pm$ 0.02Vp-p (Pedestal to white level)
- 33K component signal (50 Hz) : Y level : 0.7Vp-p $\pm$ 0.02Vp-p (Pedestal to white level)
- : PB, PR level : 0.7Vp-p $\pm$ 0.02Vp-p
- ANALOG PC (RGB) signal : RGB level : 0.7Vp-p $\pm$ 0.02Vp-p

12.1. Entering the adjustment process mode

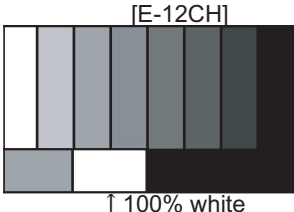
Enter the adjustment process mode according to Section 4.

12.2. PAL signal adjustment

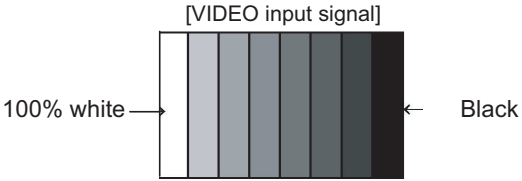
	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] PAL Full field colour bar composite signal [Terminal] EXT1 SCART Video (PAL) IN	Feed the PAL full field colour bar signal (75% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [PAL ADJ] page 4/24	Bring the cursor on [PAL ADJ] and press [OK]. [PAL ADJ OK] appears when finished.

* **ATTENTION:** Please execute [12.3. TUNER adjustment] afterwards if you adjust [12.2. PAL signal adjustment] after all adjustments are completed.

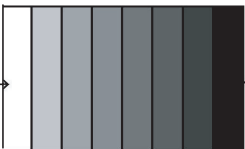
12.3. TUNER adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] PAL split field colour Bar RF signal UV [Terminal] TUNER	- Feed the PAL Split Field colour bar signal (E-12ch) to TUNER. - Make sure the PAL colour bar pattern has the sync level of 7:3 with the picture level. Signal level: 55 dB μV $\pm$ 1dB (75Ω LOAD) 
2	Auto adjustment performance	Adjustment process [TUNER ADJ] page 3/24	Bring the cursor on [TUNER ADJ] and press [OK]. [TUNER ADJ OK] appears when finished.

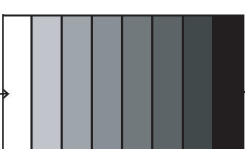
12.4. SECAM adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] SECAM Full field colour Bar Signal [Terminal] EXT1 SCART IN	Feed the SECAM full field colour bar signal (75% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [SECAM ADJ] page 4/24	Bring the cursor on [SECAM ADJ] and press [OK]. [SECAM ADJ OK] appears when finished.

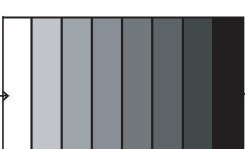
12.5. ADC adjustment (Component 15K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] COMP15K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN	Feed the COMPONENT 15K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN. 
2	Auto adjustment performance	Adjustment process [COMP15k ALL ADJ] page 6/24	Bring the cursor on [COMP15k ALL ADJ] and press [OK]. [COMP15K ALL ADJ OK] appears when finished.

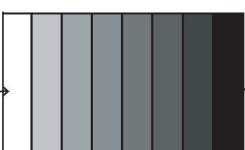
12.6. ADC adjustment (Component 33K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] COMP33K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN	Feed the COMPONENT 33K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN. 
2	Auto adjustment performance	Adjustment process [HDTV ADJ] page 7/24	Bring the cursor on [HDTV ADJ] and press [OK]. [HDTV ADJ OK] appears when finished.

12.7. PC signal adjustment (ANALOG D-Sub 15pin)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] XGA, 60Hz 100% Full Field Colour Bar Signal [Terminal] PC IN	Feed the XGA 60Hz 100% full field colour bar signal (100% colour saturation) to PC IN. 
2	Auto adjustment performance	Adjustment process [ANALOG PC ADJ] menu page 8/24	Bring the cursor on [ANALOG PC ADJ] and press [OK]. [ANALOG PC ADJ OK] appears when finished.

12.8. RGB (SCART) adjustment (RGB 15K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] RGB 15K, 50Hz 100% Full field colour bar signal [Terminal] EXT1 SCART RGB IN	Feed the RGB 15k 50Hz 100% full field colour bar signal (100% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [SCART RGB ADJ] menu page 9/24	Bring the cursor on [SCART RGB ADJ] and press [OK]. [SCART RGB ADJ OK] appears when finished.

13. White balance adjustment

For white balance adjustment, adjust the offset values on pages 11/24.

[Condition of the unit for inspection] : Modulated light (+16)

AV MODE: DYNAMIC

Active Backlight: OFF

OPC: OFF

Asing Time: Min, 60 minute

[Input signal condition] : HDMI 1080i 15IRE (LO), 78IRE (HI)

[Adjustment reference device] : Minolta CA-210

[Adjustment procedure]

- 1) Display the current adjustment status at R/G/B_GAIN (HI). (Page 11/24 of process adjustment)

The signal of 78IRE is input.

- 2) Read the value of the luminance meter. $x=0.272$, $y=0.277$

- 3) Change R_GAIN (HI)/ B_GAIN (HI) (Adjustment offset value) on page 11/24 of process adjustment so that the values of the luminance meter approach $x=0.272$ and $y=0.277$.

(Basically, G is not changed. If adjustment fails with R and B, change G. When G is lowered, the weaker of R or B must be fixed.)

- 4) Display the adjustment status of the current R/G/B_GAIN (LO).

The signal of 15IRE is input.

Change R_GAIN (LO)/ B_GAIN (LO) (adjustment offset value) on page 11/24 of process adjustment so that the values of the luminance meter approach $x=0.272$ and $y=0.277$.

- 5) Both HI and LO are repeating the step from 1 to 4 until becoming an aim value.

[Adjustment reference standard value]

Adjustment spec ± 0.002 Inspection spec ± 0.004 (point LO)

Adjustment spec ± 0.001 Inspection spec ± 0.002 (point HI)

- 6) After completing adjustments, set EEP SAVE (Page 24/24) to ON in the process menu to save the white balance adjustment value.

14. Confirmation item

1. HDMI-CEC Inspection

After repairing the CEC function, check the operation about HDMI-CEC circuit.

2. CI card Inspection

After repairing the CI function, check that the DTV signal is received by inserting CAM.

And check the KEY certification by inserting CAM which is prepare for CI+.

3. LAN Inspection (NET)/test connectivity of SD card.

After repairing the LAN function, check the communication by connecting PC and LAN terminal.

And test connectivity of SD card.

4. 3D Check

5. IR communication Check/IR Emitter (Infrared light Output) Inspection.

15. Initialization to factory settings

CAUTION: When the factory settings have been made, all user setting data, including the channel settings, are initialized.
(The adjustments done in the adjustment process mode are not initialized.) Keep this in mind when initializing these settings.

	Adjustment item	Adjustment conditions	Adjustment procedure
1	Factory settings	Ends by turning off the MAIN POWER key. (See to below caution)	[Factory setting with adjustment process mode] • Enter the adjustment process mode. • Move the cursor to [INDUSTRY INIT] on page 2/24. • Use the R/C key to select a region from [EUROPE/RUSSIA/SWEDEN] and press the [OK] key. • "EXECUTING" display appears. • After a while, "SUCCESS" display appears, the setting is completed. When succeeding: Background color (green) When failing: Background color (red) The following items are initialized in the factory setting. 1) User settings 2) Channel data (e.g. broadcast frequencies) 3) Maker option setting 4) Password data

After adjustments, exit the adjustment process mode.

To exit the adjustment process mode, unplug the AC power cord from the outlet to forcibly turn off the power.

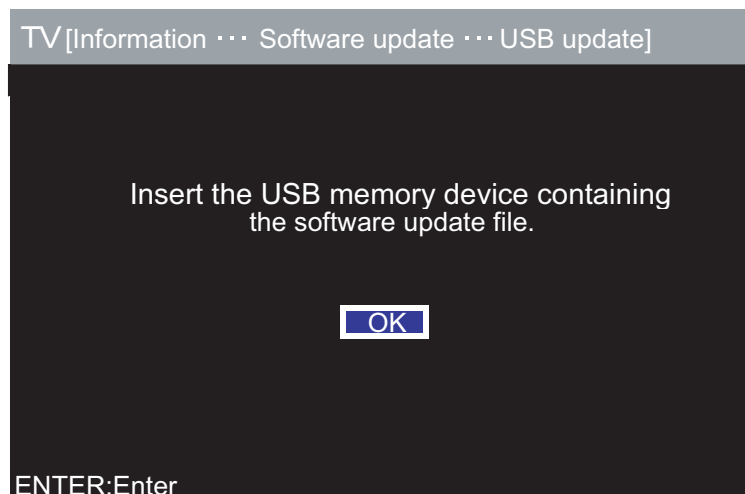
When the power is turned off with the remote control, unplug the AC power cord and plug it back in (wait approximately 20 seconds before plugging in the AC power cord).

After completing the NET connection., execute the NET initialization (Record of the server access).

Please execute the initialized in the factory setting again when you turn on the power supply after the initialized in the factory setting is set.

16. Upgrading the software

1. Turn on the AC power.
2. Insert the upgrading USB flash memory for upgrade into the service slot.
(After a while, an external input changes into USB automatically.)
3. Use the Menu button and cursor keys (◀/▶/▲/▼), Ch keys (✓/∧) of R/C or on the set to select Menu - Setup - Information - Software update - USB update on OSD menu.
4. The message (Insert the USB memory device contains the software update file) shows up.
Push OK when if there is no problem.



LC-40/46LE830E, RU/831E, S

5. After a while, if software update file is detected in the USB memory device, the following screen shows up.

Select OK when if there is no problem.

NOTE: If USB memory device isn't correctly inserted in TV, caution shows up.

Please insert USB memory device and retry software update.

NOTE: If there are more than two software update files in the USB memory device, caution shows up.

Please insert one file and retry software update.

NOTE: If there is no software update file in the USB memory device, caution shows up.

Please insert the correct file and retry software update.

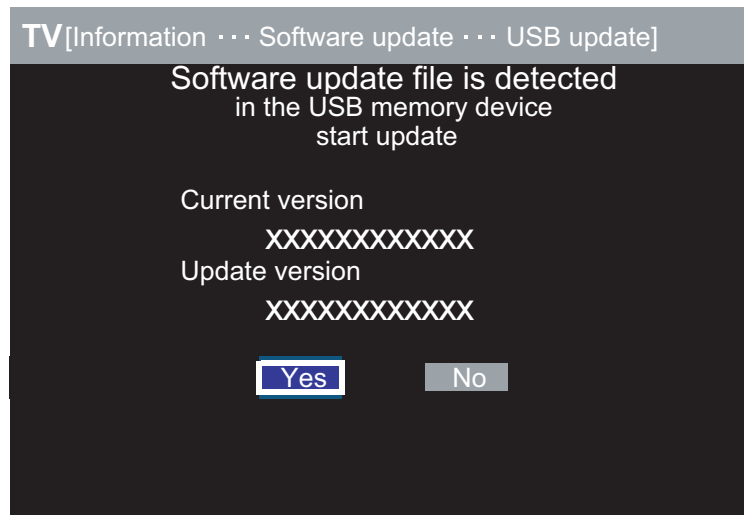
NOTE: If software update file in the USB memory device doesn't match this model, caution shows up.

(Because Model name is unmatched or check sum error occurs.)

Please insert the correct file and retry software update.

NOTE: If software update file in the USB memory device is already installed, caution shows up.

Please reconfirm the software version and reinstall. (if necessary)



6. The caution for update shows up.

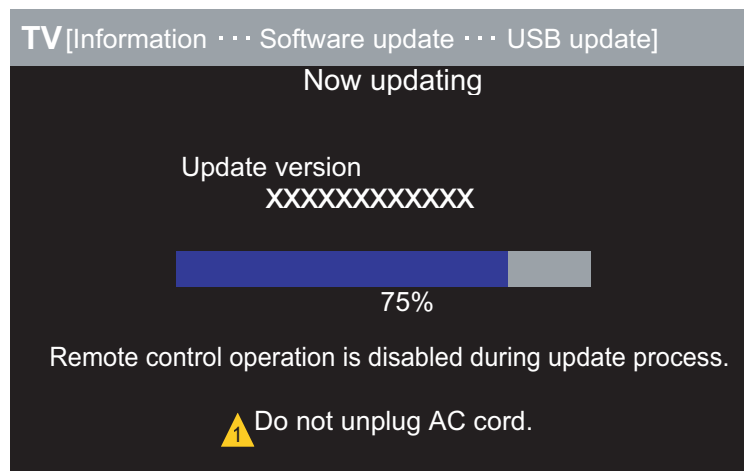
- The picture will temporary go dark until the software update display apees.
- Wait several minutes and don't unplug the AC cord.

Select OK when if there is no problem.

7. Software update starts.

Please wait for a while until the bar shows 100%.

NOTE: Do not take out the USB memory device during updating.

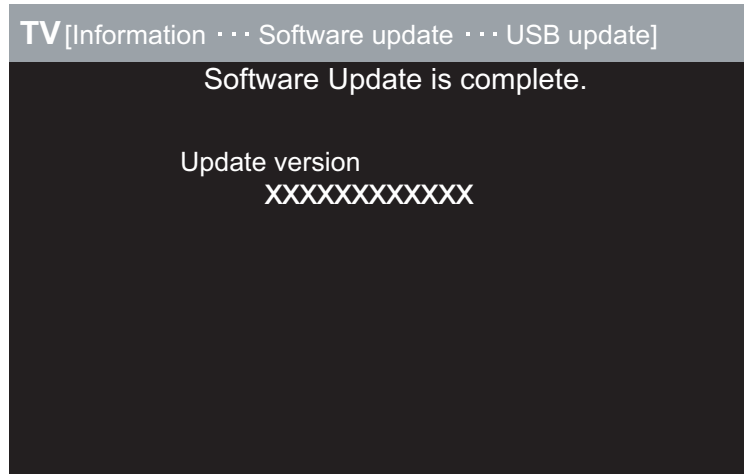


8. When all the procedures are complete, the following upgrade success screen shows up.

The new software version can be confirmed on screen.

After a while, Turn off power and boot-up automatically.

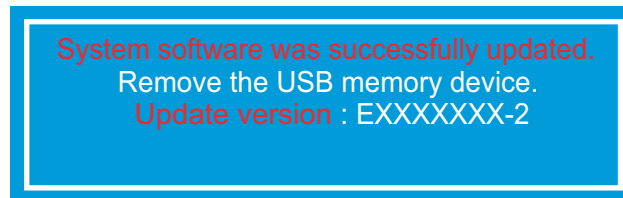
NOTE: TV is restarted automatically, the AC code need not be pulled out.



9. After boot-up, the following caution shows up.

Select OK when if there is no problem.

Software update is completed, please remove the USB memory device.



NOTE: Then get the set started and call the process adjustment screen (Top Page) to check the main software version.

CHAPTER 6. TROUBLESHOOTING TABLE

[1] TROUBLESHOOTING TABLE

No power (Central Icon LED failure to light up) or No startup (Central Icon LED is flashing)		
↓		
Is the AC cord connector tightly connected to the set?	NO →	Reconnect the AC cord tightly and turn on the power again.
↓ YES		
Are the wire harnesses and other cables properly connected to the set?	NO →	Reconnect the wire harnesses and other cables properly to the set.
↓ YES		
Is power supplied from pins [9/BU+5V] of [PD] P9602?	NO →	Replace the power unit.
↓ YES		
Is there the pins [12/PS_ON] of [PD] P9602 at "H"?	NO →	Check the signal line between PS_ON and IC2001 (UCOM)/IC3303 (Digital AV decode & Main CPU).
↓ YES		
Is there the pins [11/AC_DET] of [PD] P9602 at "H"?	NO →	Check the power unit, and the signal line between AC_DET and IC2001/IC3303.
↓ YES		
Is power supplied from pins [17~20/UR+13V] of [PD] P9602 as specified?	NO →	Check the line between PS_ON and IC2001/IC3303.
↓ YES		
Are the DC/DC converter outputs and the output voltages along the control lines as specified?	NO →	Check the DC/DC converters and the control lines. Replace defective parts as required.
1) BU3.3V (IC9609 etc.) 2) D5.6V (IC9608 etc.) 3) D5V (IC9603 etc.) 4) U5V (IC9602 etc.) 5) D3.3V (IC9605 etc.) 6) M1.8V (IC9607 etc.) 7) D1.5V (IC9604 etc.) 8) D1.2V (IC1509 etc.) 9) D1.1V (IC9606 etc.) 10)AT5V (IC1104 etc.) 11)IF1.8V (IC1109 etc.) 12)SAT+1.2V (IC1102 etc.) 13)STB+3.3V (Q9607 etc.) 14)SD3.3V (IC8456 etc.) 15)CPU_A+1.2V (IC3301 etc.) 16)CIIN+5V (IC4403 etc.) 17)MT5135+1.1V (IC4401 etc.)		

The sound is not emitted from the Speaker & Woofer though the picture has come out.

No sound output in all modes?

↓ YES

Do audio signals output from pins [Y30/CPU_AOLRCK, Y31/CPU_AOBCK, V27/CPU_AOSDATA0] of IC3303 (Digital AV decode & Main CPU)?

NO

Check IC3303 and its peripheral circuits.

↓ YES

Do audio signals input to pins [7, 8, 9] of IC2701 (DSP)?

NO

Check the line between IC3303 and IC2701.

↓ YES

Do audio signals output from pins [43/AMP_BCLK, 44/AMP_LRCLK, 45/AMP_DATA_LR, 46/AMP_DATA_SW, 47/AMP_MCLK] of IC2701?

NO

Check IC2701 and its peripheral circuits.

↓ YES

In the case that the sound is not emitted from the Speaker, refer to (A).
In the case that the sound is not emitted from the Woofer, refer to (B).

↓ (A)

Do audio signals input to pins [5, 6, 7, 8] of IC2703 (SP_AMP)?

NO

Check the line between IC2701 and IC2703.

↓ YES

Do audio signals output from pins [28/OUTML, 30/OUTPL, 12/OUTPR, 14/OUTMR] of IC2703?

NO

Check IC2703 and its peripheral circuits.

↓ YES

Is AMP_MUTE [pin (21)] of IC2703 at "H"?

NO

Check the line between IC2703 and IC3303 & IC2001 (UCOM). (Q2701, D2701 etc...)

↓ YES

Do audio signals input to pins [1&2/L-ch, 3&4/R-ch] of P2701?

NO

P2701 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

Check Speaker (right and left) and wire harness.

↓ (B)

Do audio signals input to pins [5, 6, 7, 8] of IC2702 (Woofer_AMP)?

NO

Check the line between IC2701 and IC2702.

↓ YES

Do audio signals output from pins [28/OUTML, 30/OUTPL, 12/OUTPR, 14/OUTMR] of IC2702?

NO

Check IC2702 and its peripheral circuits.

↓ YES

Is AMP_MUTE [pin (21)] of IC2702 at "H"?

NO

Check the line between IC2702 and IC3303 & IC2001. (Q2701, D2701 etc...)

↓ YES

Do audio signals input to pins [1/SUB (+), 2/SUB (-)] of P2702?

NO

P2702 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

Check Woofer and wire harness.

No sound (during the reception of TV (ANALOG) broadcasting)



Does not the sound go out though the picture has come out when UHF/VHF is received?



In the case of LE830 series, refer to (A).
In the case of LE831 series, refer to (B).

↓ (A)

Does SIF signal output from pin (8) of TUNER (TU1102)?

NO

Check the tuner and its peripheral circuits.
Replace as required.

↓ YES

Does SIF signal input to pin [AM24/CPU_ATV_IF+] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between TU1102 and IC3303. (Q1102, etc.)

↓ YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

↓ (B)

Does SIF signal output from pin (8) of TUNER (TU1104)?

NO

Check the tuner and its peripheral circuits.
Replace as required.

↓ YES

Does SIF signal input to pin [AM24/CPU_ATV_IF+] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between TU1104 and IC3303. (Q1102, etc.)

↓ YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

No sound (during the reception of TV (DIGITAL) broadcasting)

Does not the sound go out though the picture has come out when DTV is received?

In the case of LE830 series, refer to (A).
In the case of LE831 series, refer to (B).

↓ (A)

Do IF signals output to pins [10, 11] of TUNER (TU1102)?

NO

Check the tuner and its peripheral circuits.
Replace as required.

↓ YES

Do IF signals input to pins [35/IFPGA_INN, 36/IFPGA_INP] of IC4402 (CI Cont & DTB-T/C Demod)?

NO

Check the line between IC1102 and IC4402.

↓ YES

Do TS signals output to pins [15/DEMOD_TS_DATA0, 16/DEMOD_TS_SYNC, 17/DEMOD_TS_VAL, 18/DEMOD_TS_CLK] of IC4402?

NO

Check IC4402 and its peripheral circuits.

↓ YES

Do TS signals input to pins [U30/DEMOD_TSDATA0, V30/DEMOD_TSSYNC, V29/DEMOD_TSVAL, U32/DEMOD_TSCLK] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between IC4402 and IC3303.

↓ YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

↓ (B)

Do TS signals output to pins [19/TS_TUOUT_CLK, 17/TS_TUOUT_SYNC, 18/TS_TUOUT_VAL, 20~27/TS_TUOUT_D0~7] of TUNER (TU1104)?

NO

Check the tuner and its peripheral circuits.
Replace as required.

↓ YES

Do TS signals input to pins [45/TS_TUOUT_CLK, 46/TS_TUOUT_SYNC, 47/TS_TUOUT_VAL, 48, 51~57/TS_TUOUT_D0~7] of IC4402 (CI Cont & DTB-T/C Demod)?

NO

Check the line between TU1104 and IC4402.

↓ YES

Do TS signals output to pins [15/DEMOD_TS_DATA0, 16/DEMOD_TS_SYNC, 17/DEMOD_TS_VAL, 18/DEMOD_TS_CLK] of IC4402?

NO

Check IC4402 and its peripheral circuits.

↓ YES

Do TS signals input to pins [U30/DEMOD_TSDATA0, V30/DEMOD_TSSYNC, V29/DEMOD_TSVAL, U32/DEMOD_TSCLK] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between IC4402 and IC3303.

↓ YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

**No sound (during the reception of TV (DIGITAL-Satellite) broadcasting)
(DIGITAL-Satellite is only function for LE830 series)**



Does not the sound go out though the picture has come out when DTV is received?



Do TS signals output to pins [44/TS_TUOUT_CLK, 46/TS_TUOUT_SYNC, 45/TS_TUOUT_VAL, 43~36/TS_TUOUT_D0~7] of TUNER(TU1102)?

NO

Check the tuner and its peripheral circuits.
Replace as required.



↓ YES

Do TS signals input to pins [45/S2_TS_CLK, 46/S2_TS_SYNC, 47/S2_TS_VAL, 48,51~57/S2_TS_DATA0~7] of IC4402 (CI Cont & DTB-T/C Demod)?

NO

Check the line between TU1102 and IC4402.



↓ YES

Do TS signals output to pins [15/DEMOD_TS_DATA0, 16/DEMOD_TS_SYNC, 17/DEMOD_TS_VAL, 18/DEMOD_TS_CLK] of IC4402?

NO

Check IC4402 and its peripheral circuits.



↓ YES

Do TS signals input to pins [U30/DEMOD_TSDATA0, V30/DEMOD_TSSYNC, V29/DEMOD_TSVAL, U32/DEMOD_TSCLK] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between IC4402 and IC3303.



↓ YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

No sound from external input devices (1)



Does not the sound of the audio signal input to EXT1 go out?



Do audio signals input to pins [2/AUDIO_IN_R, 6/AUDIO_IN_L] of EXT1 (SC505)?

NO

Check the setting of an external input device that connects with EXT1.



↓ YES

Do audio signals input to pins [AM32/SC1_AINR0, AM30/SC1_AINL0] of IC3303 (Digital AV decode & Main CPU) from SC505?

NO

Check the line between SC505 and IC3303.



↓ YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

No sound from external input devices (2)**Does not the sound of the audio signal input to EXT2 go out?**

- Do audio signals input to pins [2/CVBS1_IN_R, 3/CVBS1_IN_L] of EXT2 (J511)?
- Is CVBS_PLUG [4/CVBS1_PLUG] of J511 at "L"?

NO

Check the setting of an external input device that connects with EXT2.

YES

Do audio signals input to pins [AL32/CVBS1_AINR2, AL30/CVBS1_AINL2] of IC3303 (Digital AV decode & Main CPU)?

NO

Check IC3303 and its peripheral circuits.

YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

No sound from external input devices (3)**Does not the sound of the audio signal input to EXT3 go out?**

Do audio signals input to pins [7/COMP1_IN_R, 8/COMP1_IN_L] of EXT3 (J511)?

NO

Check the setting of an external input device that connects with EXT3.

YES

Do audio signals input to pins [AK29/COMP1_AINR1, AK27/IFCOMP1_AINL1] of IC3303 (Digital AV decode & Main CPU)?

NO

Check IC3303 and its peripheral circuits.

YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

No sound from external input devices (4)**Does not the sound of the audio signal input to HDMI-2 mode go out?**

Check whether it is selected "HDMI + Analog" by the Audio select under Menu-Setup-Option-Terminal setting-Audio select.

YES

Do audio signals input to pins [2/PC/HDMI_L, 3/PC/HDMI_R] of J501 (PC AUDIO_IN)?

YES

Do audio signals input to pins [AM27/PC_HDMI_AINL4, AJ27/PC_HDMI_AINR4] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between J501 and IC3303.

YES

Refer to "The sound is not emitted from the Speaker & Woofer though the picture has come out."

Does not the sound of the audio signal input to PC/Component mode go out?

Check whether it is selected "Video + Audio" by the Audio select under Menu-Setup-Option-Terminal setting-Audio select.

YES

NO

Check the setting of an external input device that connects with J501.

No sound from external input devices (5)



Does not the sound of the audio signal input to HDMI1/2/3/4 go out?



Please Refer to "[External input HDMI-1/2/3/4] No picture on the display (11)".

No sound from external output device (1)



No audio signal output to EXT1 terminal.



Do audio signals output from pins [1/AUDIO_OUT_R, 3/AUDIO_OUT_L] of EXT1 (SC505)?

YES
→

Check the setting of an external input device that connects with EXT1.

↓ NO

Is AUDIO_MUTE(MUTE_A_ALL) [23 pin] of IC2001 (UCOM) at "H"?

YES
→

Check the peripheral circuits of IC2001 and AUDIO_MUTE. (Q502 etc...)

↓ NO

Do audio signals output from pins [1/TUNER_R_OUT, 7/TUNER_L_OUT] of IC2706 (Buffer AMP)?

YES
→

Check the line between IC2706 and SC505.

↓ NO

Do audio signals input to pins [2, 6] of IC2706?

YES
→

Check IC2706 and its peripheral circuits.

↓ NO

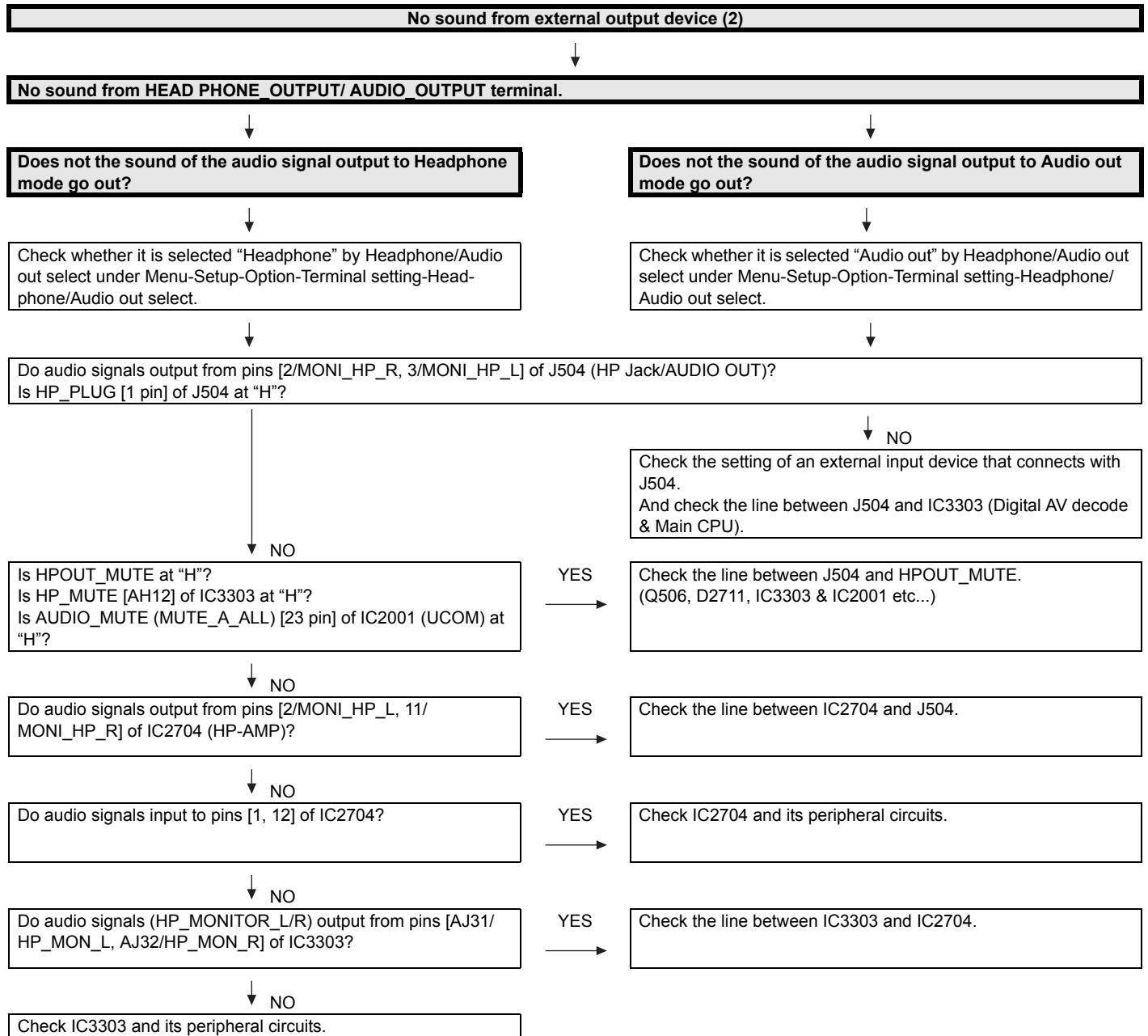
Do audio signals (TUNER_OUTR/L) output from pins [AG31/TUNER_OUT_R, AG32/TUNER_OUT_L] of IC3303 (Digital AV decode & Main CPU)?

YES
→

Check between IC3303 and IC2706.

↓ NO

Check IC3303 and its peripheral circuits.



No sound from external output device (3)**No sound from DIGITAL AUDIO OUTPUT terminal.**

Does audio signal output from pin [1] of sound output terminal (D527)?

YES

Check D527 and peripheral circuits.

↓ NO

Does audio signal output from pin [4] of IC503?

YES

Check the line between IC503 and D527.

↓ NO

Is AUDIO_MUTE (MUTE_A_ALL) [23 pin] of IC2001 (UCOM) at "H"?

YES

Check the peripheral circuits of IC503 and AUDIO_MUTE. (Q505 etc...)

↓ NO

Does audio signal input to pin [2] of IC503?

YES

Check IC503 and peripheral circuits.

↓ NO

Does audio signal (OPT_OUT) output from pin [AA31/ CPU_ASPDIF] of IC3303 (Digital AV decode & Main CPU)?

YES

Check the line between IC3303 and IC503.

↓ NO

Check IC3303 and its peripheral circuits.

No sound from external output device (4)**Does not the sound of the audio signal output to HDMI1 go out?**

Does audio signal output from pin [14] of SC1503 (HDMI1 terminal)?

YES

Check SC1503 and peripheral circuits.

↓ NO

Does audio signal output from pin [39/HECP] of IC1504 (HDMI-SW)?

YES

Check the line between IC1504 and SC1503.

↓ NO

Does audio signal input to pin [36/SPDIF_IN] of IC1504?

YES

Check IC1504 and peripheral circuits.

↓ NO

Does audio signal (HDMI_OPT_OUT) output from pin [AA31/ CPU_ASPDIF] of IC3303 (Digital AV decode & Main CPU)?

YES

Check the line between IC3303 and IC1504.

↓ NO

Check IC3303 and its peripheral circuits.

No picture on the display (1)**The picture doesn't appear in all modes.**

Is the LVDS signal output from IC3303 (DIGITAL_AV_DECODER_&_MAIN_CPU) respectively?

[LVDS0_D0N/P (B15/A15), LVDS0_D1N/P (B16/A16), LVDS0_D2N/P (B17/A17), LVDS0_CLKN/P_74MHz (B18/A18), LVDS0_D3N/P (B19/A19), LVDS0_D4N/P (B20/A20), LVDS1_D0N/P (C15/D15), LVDS1_D1N/P (E15/E16), LVDS1_D2N/P (C17/D17), LVDS1_CLKN/P_74MHz (E17/E18), LVDS1_D3N/P (C19/D19), LVDS1_D4N/P (E19/E20)]

YES

Do above-mentioned LVDS signals output from connector (P2601)?

YES

Similarly, is LCD controller's control signal normal?

YES

LCD Controller Unit:
Do LVDS signals input to connector (LW) of LCD Controller Unit?

YES

Check the panel module.

NO

Check IC3303 and its peripheral control circuits.
(IC2001, IC3501, IC3502, X3301, etc.)

NO

Check the line between IC3303 and P2601.

NO

Please check each control signal of DET_POW (DET_PNL12V),
PE (PNL_EN).

NO

Wire harness (LW) is checked.

No picture on the display (2)**Does not the picture come out when VHF/UHF is received?**

In the case of LE830 series, refer to (A).
In the case of LE831 series, refer to (B).

(A)

Does video signal (IFTU_AIF+/CVBS) output from pin [9] of TUNER (TU1102)?

NO

Check the tuner and its peripheral circuits.
Replace as required.

YES

Does video signal (TUNER_CVBS) input to pin [AK24/
CPU_CVBS0P] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between TU1102 and IC3303. (Q1106, etc...)

YES

Refer to "No picture on the display (1)".

(B)

Does video signal (IFTU_AIF+/CVBS) output from pin [9] of TUNER (TU1104)?

NO

Check the tuner and its peripheral circuits.
Replace as required.

YES

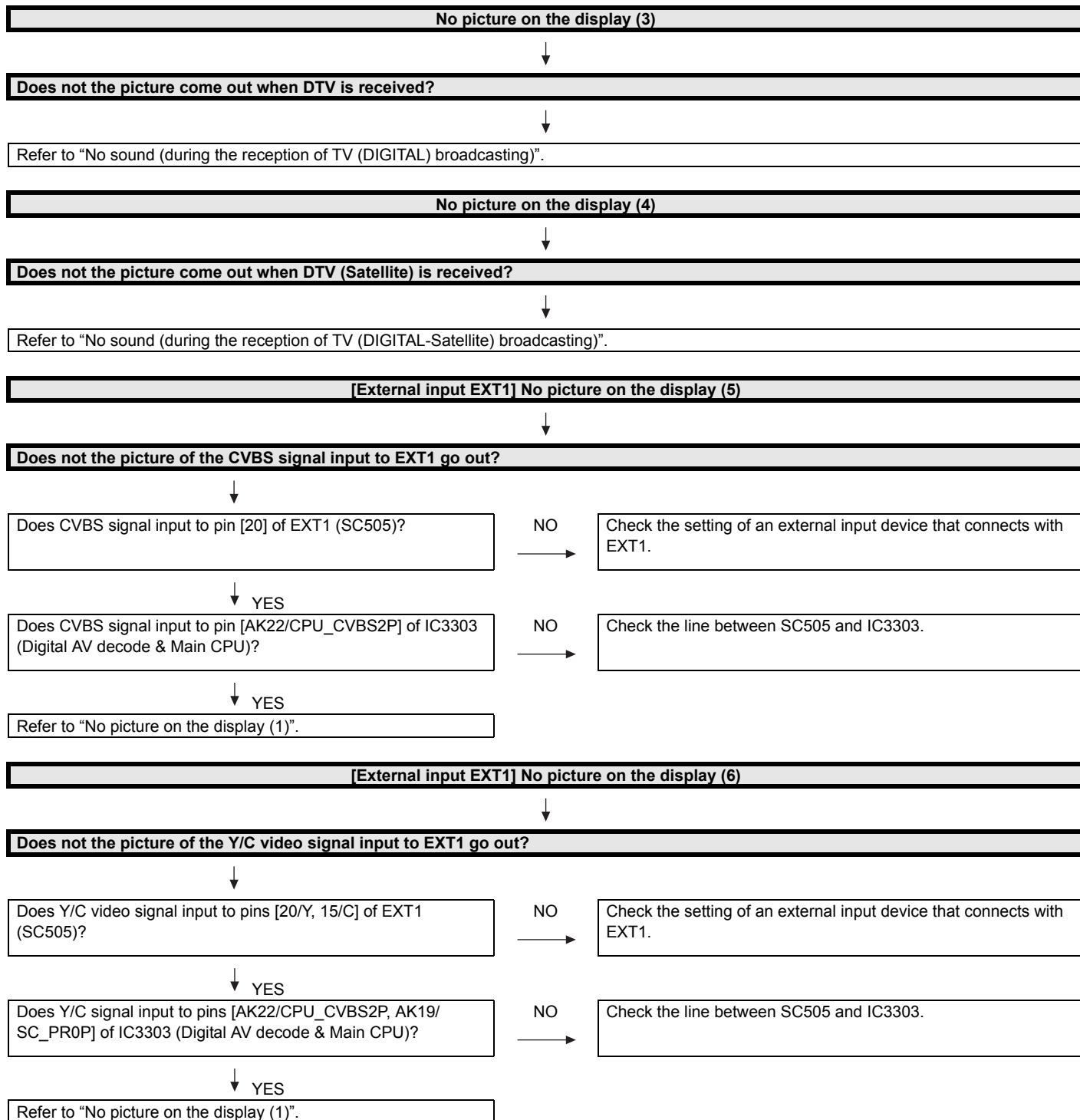
Does video signal (TUNER_CVBS) input to pin [AK24/
CPU_CVBS0P] of IC3303 (Digital AV decode & Main CPU)?

NO

Check the line between TU1104 and IC3303. (Q1106, etc...)

YES

Refer to "No picture on the display (1)".



[External input EXT1] No picture on the display (7)**Does not the picture of the R/G/B signal input to EXT1 go out?**

Do RGB signals input to pins [15/RGB_IN_RED/C, 11/RGB_IN_GREEN and 7/RGB_IN_BLUE] of EXT1 (SC505)?

NO



Check the setting of an external input device that connects with EXT1.

↓ YES

Do RGB signals from EXT1 (SC505) input to pins [AK19/SC_PR0P, AM19/SC_PB0P and AM18/SC_Y0P] of IC3303 (Digital AV decode & Main CPU)?

NO



Check the line between SC505 and IC3303.

↓ YES

Refer to "No picture on the display (1)".

[External input EXT2] No picture on the display (8)**Does not the picture of the CVBS signal input to EXT2 go out?**

Does CVBS signal input to pin [5] of EXT2 (J511)?
Is CVBS_PLUG [4/CVBS1_PLUG] of J511 at "L"?

NO



Check the setting of an external input device that connects with EXT2.

↓ YES

Does CVBS signal input to pin [AJ23/CPU_CVBS1P] of IC3303 (Digital AV decode & Main CPU)?

NO



Check the line between J511 and IC3303.

↓ YES

Refer to "No picture on the display (1)".

[External input EXT3] No picture on the display (9)**Does not the picture of the COMPONENT signal input to EXT3 go out?**

Do COMPONENT signals input to pins [13/COMP1_Y, 10/COMP1_Pr, 11/COMP1_Pb] of EXT3 (J511)?

NO



Check the setting of an external input device that connects with EXT3.

↓ YES

Do COMPONENT signals input to pins [AM16/COMP_Y1P), (AJ18/COMP_PR1P) and (AK17/COMP_PB1P) of IC3303 (Digital AV decode & Main CPU)?

NO



Check the line between J511 and IC3303.

↓ YES

Refer to "No picture on the display (1)".

[External input PC] No picture on the display (10)**Does not the picture of the ANALOG-RGB signal input to PC_IN (15pin-D-SUB terminal) go out?**

Do ANALOG-RGB and synchronized signal input to pin [(1, 2, 3)/(PC_RED, GREEN, BLUE), (14 and 13)/(PC_VSYNC, H.Sync)] of PC_IN (SC501)?

NO



Check the connection and setup with the external PC_IN devices.

↓ YES

Do ANALOG-RGB and synchronized signal input to pins [AM15/PC_RP, AK15/PC_GP, AK13/PC_BP, and AL13/PC_HSYNC, AM13/PC_VSYNC] of IC3303 (Digital AV decode & Main CPU)?

NO



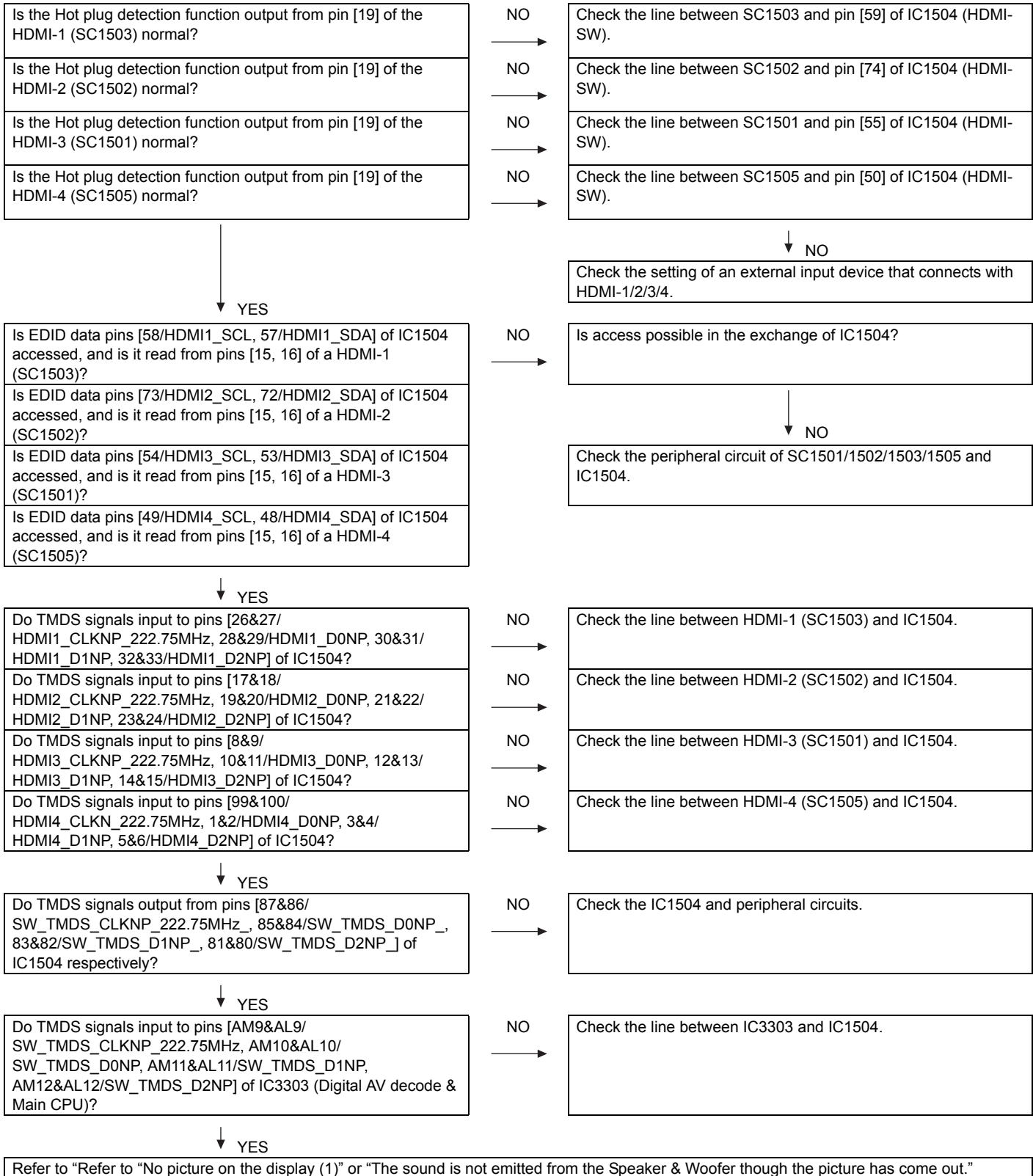
Check the line between SC501 and IC3303.

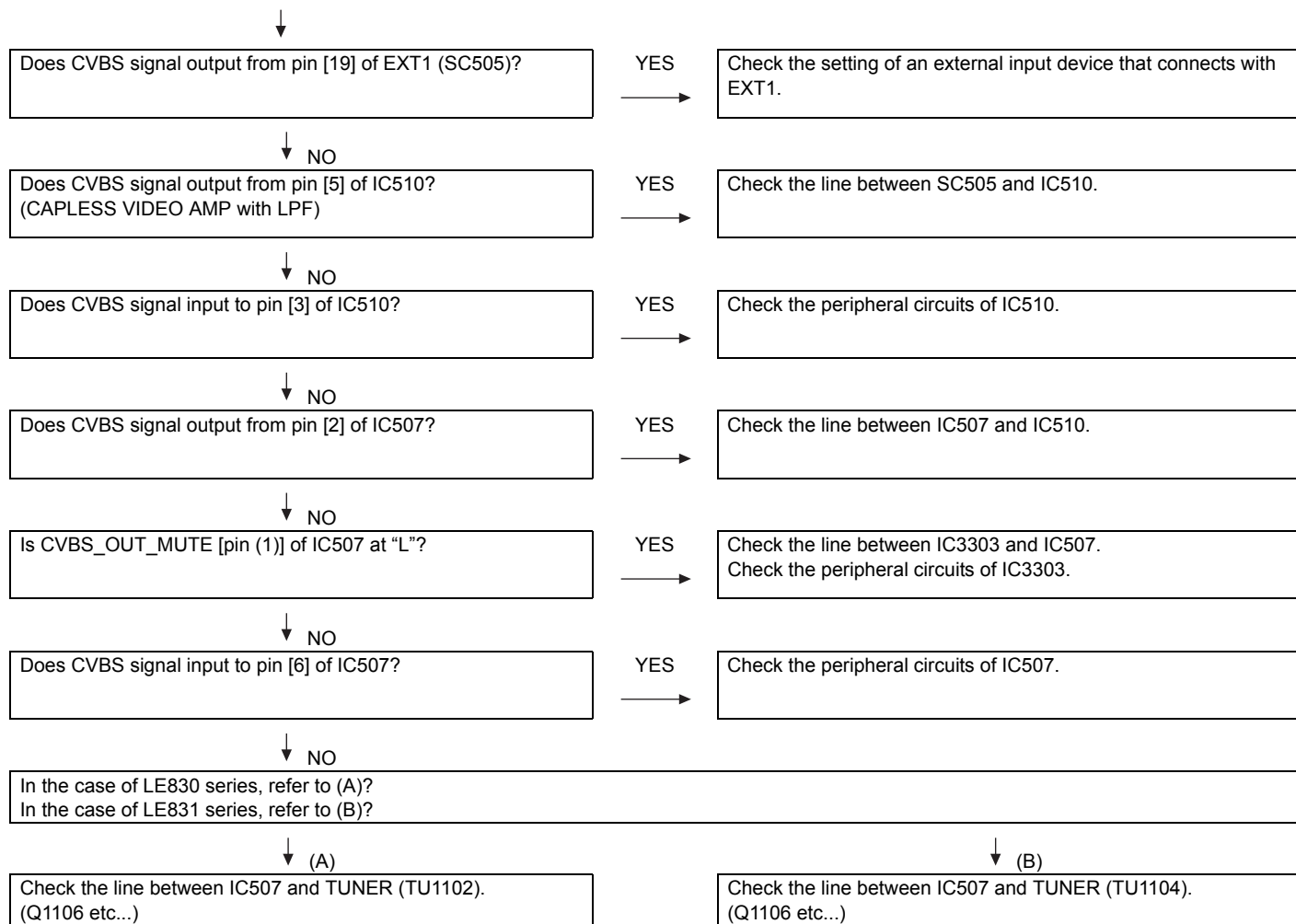
↓ YES

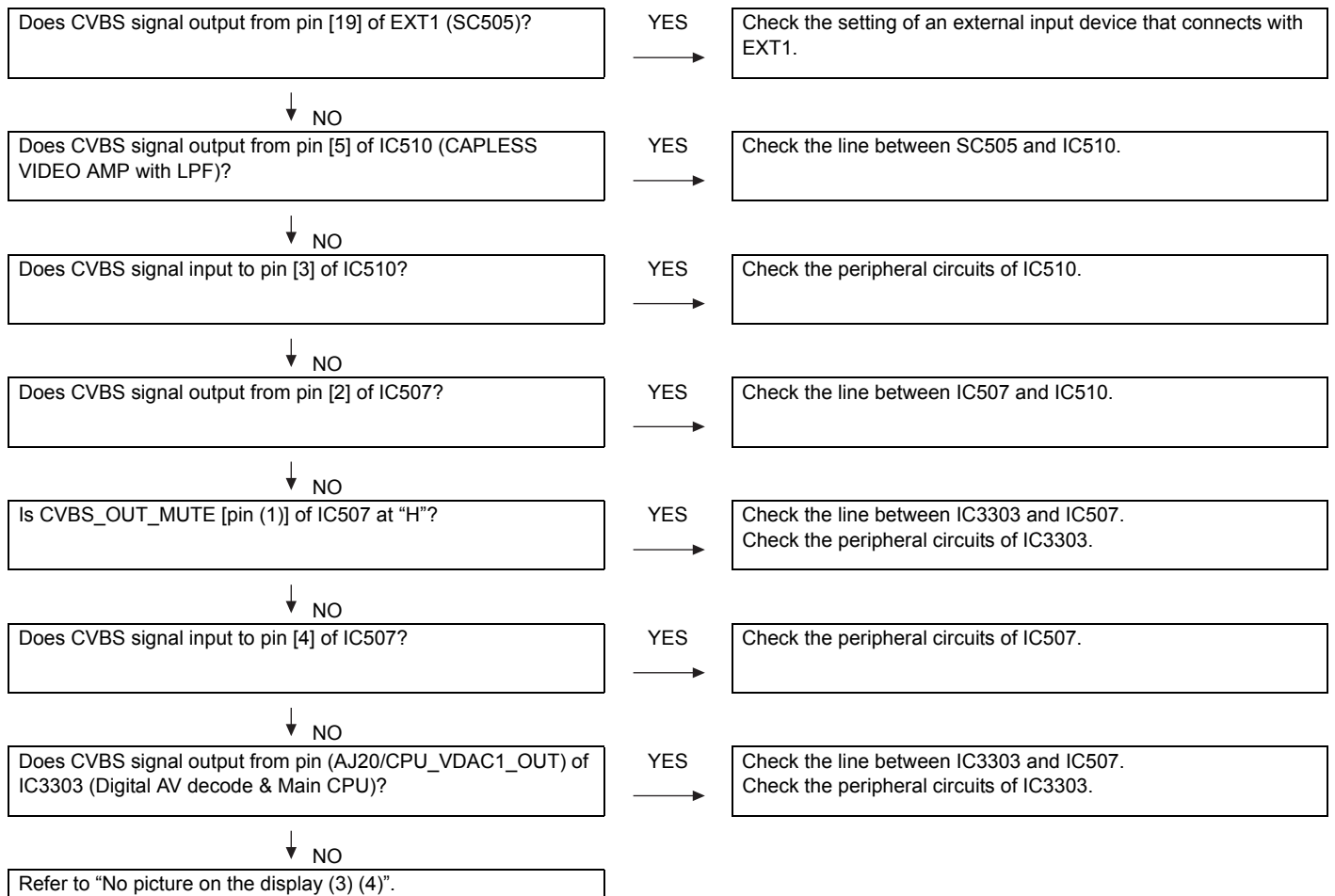
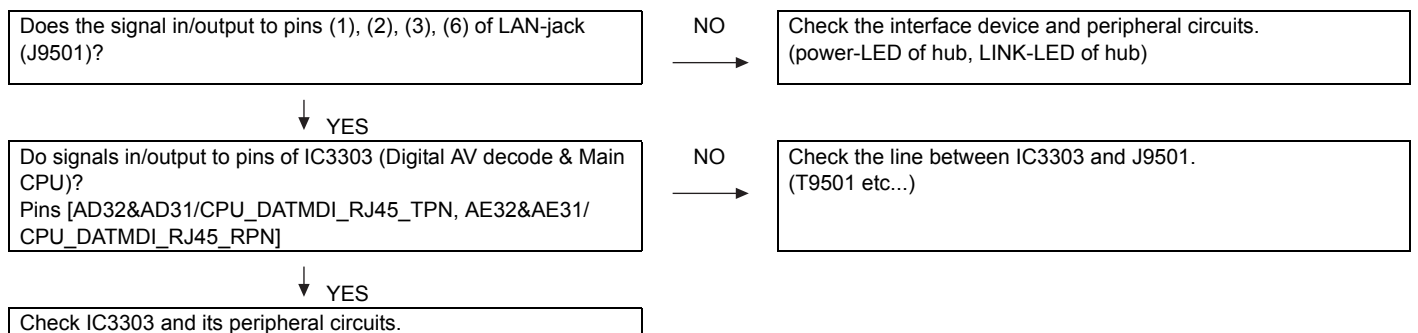
Refer to "No picture on the display (1)".

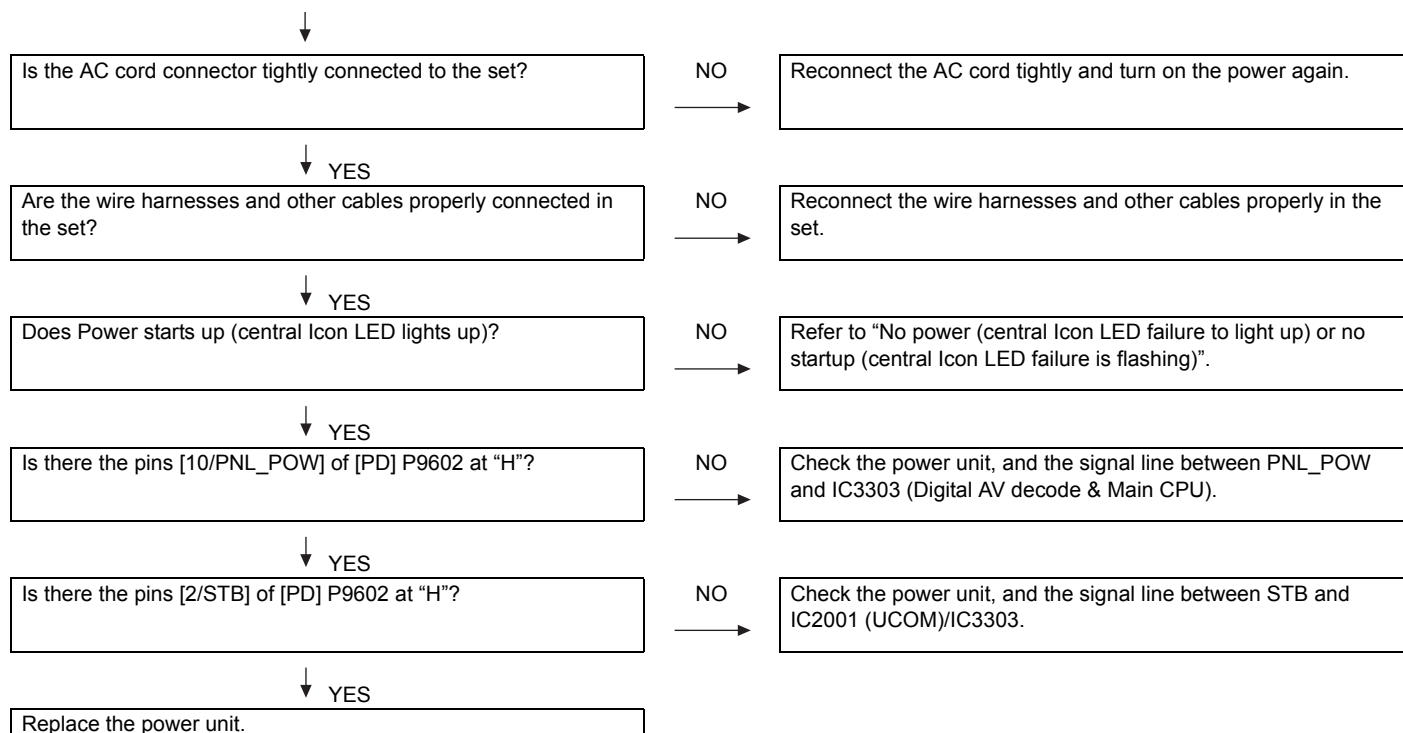
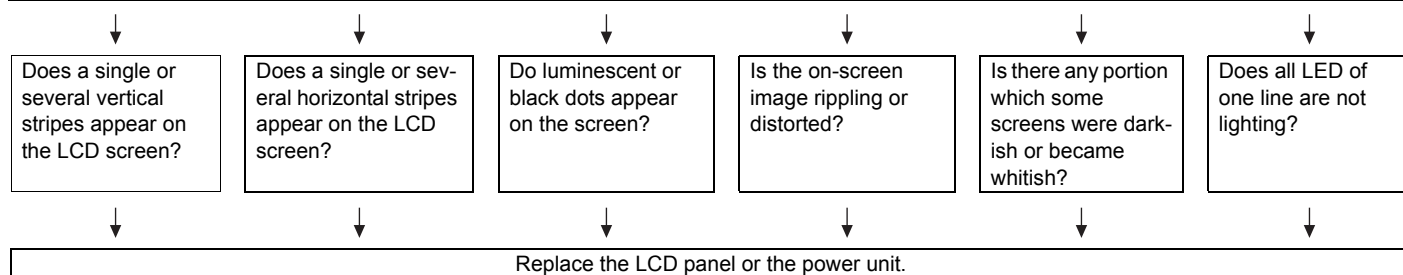
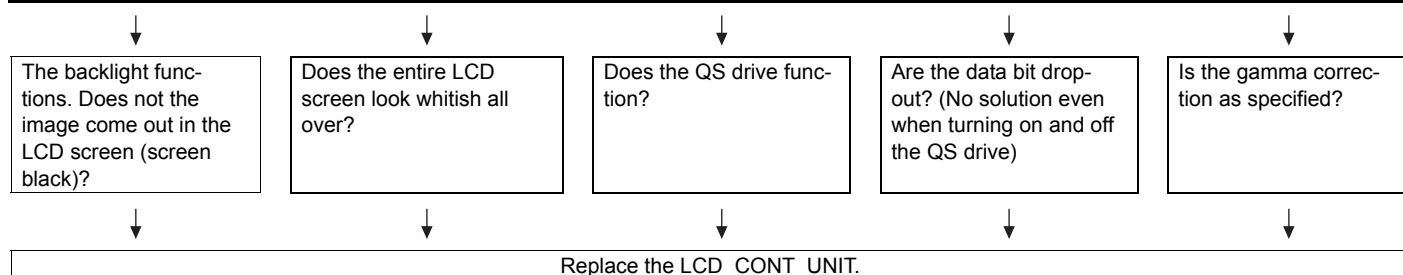
[External input HDMI-1/2/3/4] No picture on the display (11)

Does not the picture/sound of the HDMI signal input to HDMI-1/2/3/4 go out?



<During external connection> No picture on the monitor**No picture appears on EXT1 connected monitor during the ATV reception.**

<During external connection> No picture on the monitor**No picture appears on EXT1 connected monitor during the DTV reception.****[External input Network] No picture on the display****Does not the signal input to Network go out?**

No light (Back Light doesn't light)**LCD Panel failure (1)****LCD Panel failure (2)**

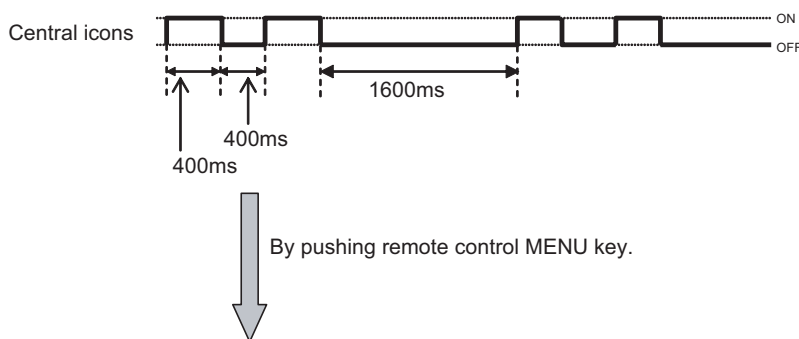
[2] LED flashing specification at the time of the error

Display method

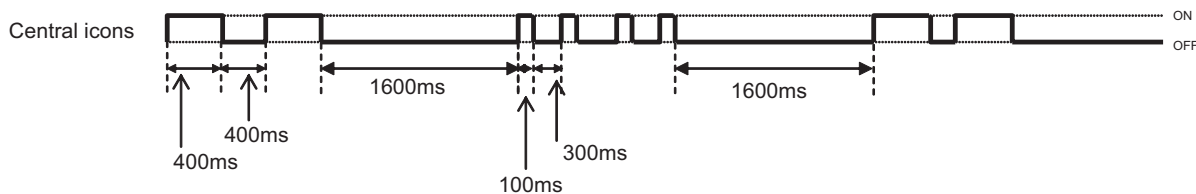
- Refer to Table 1.
- LED that can be used are only one of the central icon (Emblem Unit).
This expresses the error situation by combining blinking at low speed and blinking at high speed.
- For this model, the blinking pattern displayed first is only a low-speed blinking.
This expresses **a rough content of the error**.
- For this model, details are displayed by a high-speed blinking by pushing remote control MENU key.
This expresses **details of the error**.
Details are distinguished by the blinking frequency.
- It doesn't return to the outline display again (blink at low speed) by pushing the MENU key (The toggle is not done).
Please confirm "MONITOR ERR CAUSE" of the adjustment Process mode (1/24 page), when the error doesn't reproduce by having returned from the error.
- The process of the upgrade is expressed by the brightness of point LED that smoothness changes.
- The upgrade completion is expressed by the LED brightness that changes in a staircase pattern.

LED flashing method

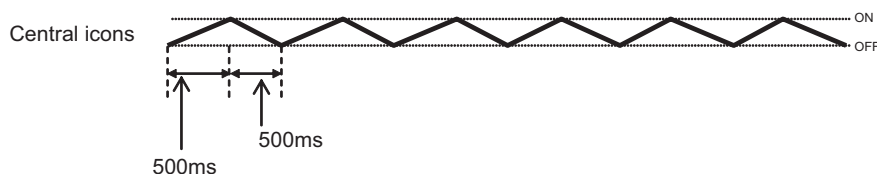
<Examination for a rough content of the error>



<Examination for details of the error>



<Upgrade executing>



<Upgrade completion>

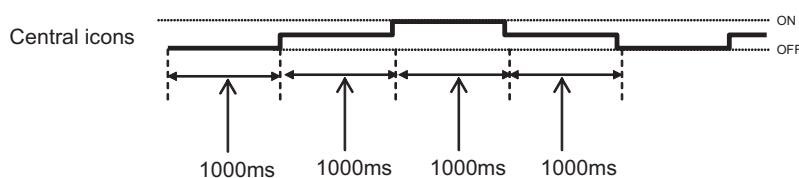


Table 1. Concrete flashing pattern

Item	Expression for a rough content		Expression for Details		Cause
	low-speed blinking	high-speed blinking	low-speed blinking	high-speed blinking	
Lamp system failure	Flashes once	—	Flashes once	Flashes once	Lamp error
Power PWB failure (Power failure, etc.)	Flashes twice	—	Flashes twice	Flashes once	Power Error 1 AC_DET error (*2)
				Flashes twice	Power Error 2 UR+13.5V error (*2)
				Flashes 3 times	Power Error 3 D3.3V error (*2)
				Flashes 5 times	Panel power supply error
Main PWB failure (Communication failure, etc.)	Flashes 3 times	—	Flashes 3 times	Flashes once	Initial communication error
				Flashes twice	Start-up confirmation communication error
				Flashes 3 times	Regular communication error
				Flashes 5 times	Other communication error
Others	Flashes 4 times	—	Flashes 4 times	Flashes once	Temperature error
				Flashes twice	Sync error
				Flashes 3 times	Notification from the main microprocessor (*3)
Upgrade executing	smoothness changes.	—	—	—	Version upgrading
Upgrade completion	a staircase pattern.	—	—	—	Version upgrade succeeded
Upgrade failed	—	Flashing (Continuous)	—	—	Version upgrade failed
ROM data failure	—	Flashing (Continuous)	—	—	Start-up after failing version upgrade (*4)

*2: It depends on the system. The power supply error suitable for the product is defined.

*3: For details, refer to ERROR STANDBY CAUSE on the adjustment process screen.

*4: If the boot section is abnormal, there is no flashing (flashing disabled).

MONITOR ERR STBY table

Outline: Communication/Power failure detected by the monitor microprocessor (IC2001) is stored on EEPROM, states can be confirmed in the adjustment process mode.

Location: Page (1/24) of the adjustment process mode: MONITOR ERR CAUSE "0" if there is no error. It is cleared to 0 on the page (2/24) of the adjustment process mode.

Display	Error description	
02	Start-up communication error 2	Initial communication from the main CPU is not received.
03	Start-up communication error 3	Only the initial communication is received.
04	Start-up communication error 4	Until panel information request reception
05	Start-up communication error 5	Until initialization completion reception
06	Start-up communication error 6	Until version notification transmission
07	Start-up communication error 7	Until start-up information notification transmission
08	Start-up communication error 8	Until start-up information response reception
09	Start-up communication error 9	Until time-out setting reception
0A	Communication error A	REQ time-out
0B	Communication error B	Restart time-out during the beginning of time acquisition start-up
0C	Communication error C	Ending sequence time-out
0D	Communication error D	Preset start-up time-out during completion
0E	Communication error E	Download start-up time-out
0F	Communication error F	Time acquisition time-out
11	Communication error H	Regular communication time-out
16	Panel-related error	Lamp failure
1A	Other error 2	Monitor temperature failure
1D	Power supply error 1	PS_ON (AC_DET) failure
1E	Power supply error 2	D_POW (DET_13V) failure
1F	Power supply error 3	D_POW (DET_D3V3) failure
21	Power supply error 5	Panel power failure
23	Other error 3	Error standby request from the main CPU

LED flashing timing chart at the time of the error



1) Low-speed blinking

Error type	Expression of Central Icon LED	
Lamp failure low-speed blinking Flashes once	H: ON L: OFF	Refer to "Lamp failure details". LOW/High blinking by pressing the [MENU] key on the remote control.
Power failure low-speed blinking Flashes twice	H: ON L: OFF	Refer to "Power failure details". LOW/High blinking by pressing the [MENU] key on the remote control.
Communication failure with main CPU low-speed blinking Flashes 3 times	H: ON L: OFF	Refer to "Communication failure details". LOW/High blinking by pressing the [MENU] key on the remote control. Communication line failure or main CPU communication failure.
Others low-speed blinking Flashes 4 times	H: ON L: OFF	Refer to "Other failure details". LOW/High blinking by pressing the [MENU] key on the remote control.

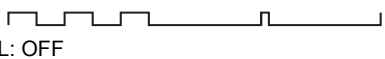
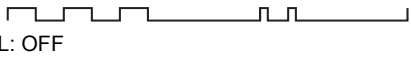
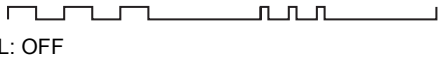
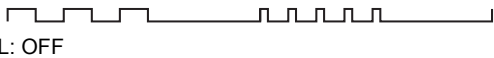
2) Lamp failure details (Low-speed blinking: Flashes once + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2001).
Lamp failure Flashes once (High speed)	H: ON L: OFF	LAMP_ERR (19pin): Abnormal H. Confirmed after 8 consecutive detections at 64ms intervals (detected only when the backlight is on). NOTE: After 5 detection counts, the lamp cannot be activated except in the monitoring process. To confirm the problem, "Lamp Error detection off-mode" is prepared. This mode compulsorily starts the set disregarding the count. Please refer to [9. Lamp Error detection (ADJUSTMENT PROCEDURE)]

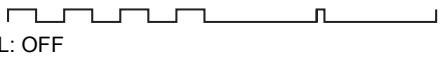
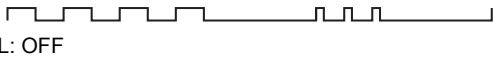
3) Power failure details (Low-speed blinking: Flashes twice + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2001).
PS_ON AC_DET failure Flashes once (High speed)	H: ON L: OFF	AC_DET (28pin): Abnormal (L). If error is detected during start-up or operation, the power is turned on again by interrupt handling (instantaneous blackout processing).
SM_POW Main 13V failure Flashes twice (High speed)	H: ON L: OFF	DET_13V (32pin): Abnormal (L). Main 13V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
D_POW Digital 3.3V failure Flashes 3 times (High speed)	H: ON L: OFF	DET_D3V3 (33pin): abnormal (L). Digital 3.3V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
PANEL_POW Panel 12V failure Flashes 5 times (High speed)	H: ON L: OFF	DET_PNL12V (34pin): abnormal (L). DET_PNL12V is not applied. Detection starts after receiving command from Panel Power ON. The power is turned off by polling.

4) Communication failure details (Low-speed blinking: Flashes 3 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Basically, debug print logs are analyzed or communication logs are analyzed by a bus monitor.
Initial communication reception failure Flashes once (High speed)	H: ON  L: OFF	Initial communication from the main CPU is not received. (Request for the monitor model No. is not received.) → Communication line failure or main CPU start-up failure.
Start-up confirmation reception failure Flashes twice (High speed)	H: ON  L: OFF	Start-up reason confirmation from the main CPU cannot be received. (Startup communication until start-up reason notification command is not received.) → Main CPU start-up failure or monitor microprocessor reception failure.
Regular communication failure Flashes 3 times (High speed)	H: ON  L: OFF	Regular communication that is performed at 1 second intervals in the normal operation is interrupted. → Main CPU operation failure or monitor microprocessor reception failure.
Other communication failure Flashes 5 times (High speed)	H: ON  L: OFF	When a request (PM_REQ=H) is sent from the main microprocessor, the request command is not output from the main CPU, etc. → Main CPU operation failure or monitor microprocessor reception failure.

5) Other failure details (Low-speed blinking: Flashes 4 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2001).
Monitor temperature failure Flashes once (High speed)	H: ON  L: OFF	If the panel temperature is 60°C or more for 15s or more in a row, CAUTION appears on the OSD (flashes in red in the lower right screen). If the panel temperature is 60°C or more for 25s or more in a row, error standby is activated. (MONITOR MAX TEMP on page (12/24) of the adjustment process: Change AD value for temperature failure): Thermistor
Main failure Flashes 3 times (High speed)	H: ON  L: OFF	Main microprocessor detection error (CPU temperature error, etc.) Details are displayed on page (1/24) of the adjustment process for the main microprocessor.

CHAPTER 7. MAJOR IC INFORMATIONS

[1] MAJOR IC INFORMATIONS

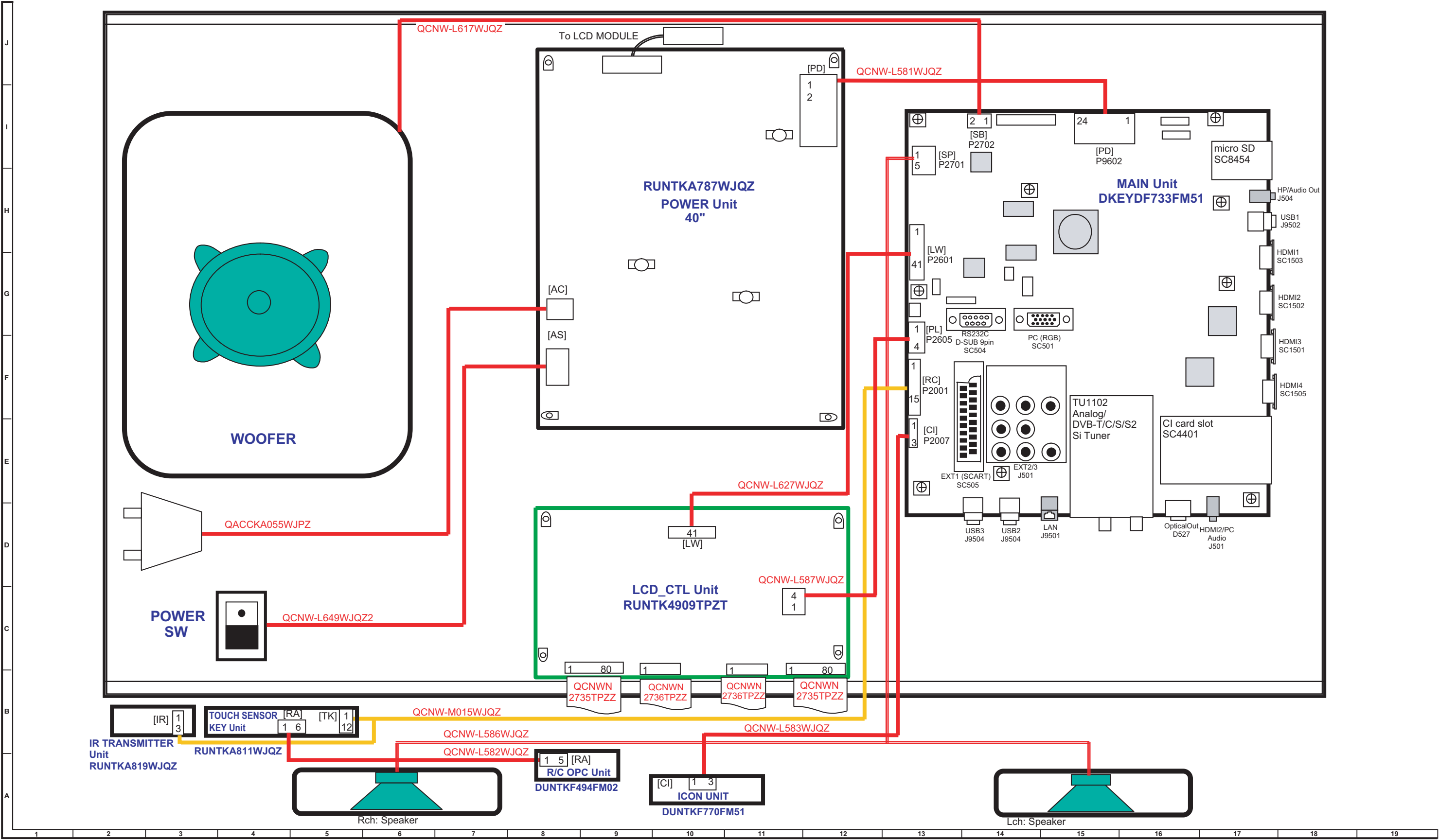
REF NO	Name	Part Code	Description
[MAIN UNIT]			
IC8401	RH-iXD287WJQZQ	Flash	This IC is 2048Mbit NAND flash memory. This IC stores the software data that processes the system of TV such as the graphic processing, the LCD controls, and backlights etc.
IC3303	RH-iXD220WJQZQ	Digital AV decode Main CPU	This IC is Video Processor & MAIN CPU. In this IC, the decode processing and the video signal processing are done. Moreover, OSD is generated here and added to a picture signal.
IC2001	RH-iXD241WJQZQ for service (RH-iXD241WJN2Q)	UCOM	The monitor microprocessor is intended to communicate with the main CPU and to operate the system. It also controls power of the entire system.
IC3501/3502	RH-iXD242WJQZQ	DDR	This IC is 2GB DDR2 SDRAM. This IC operates as a memory of IC3303 (Digital AV decode & Main CPU).
IC8455	VHiR24064AS-1Y	64K bit E2PROM	The BR24S64W is a 64Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor.
IC506	VHiM3221EiP-1Y	RS232C-DRIVER	The MAX3221E is a single driver, single receiver RS-232 solution operating from a single Vcc supply. The RS-232 pins provide IEC G1000-4-2 ESD Protection. The device meets the requirements of TIA/EIA-232-F and provides the electrical interface between an asynchronous communication controller and the serial-port connector. The charge pump and four small external capacitors allow operation from a single 3V to 5.5V supply.
IC4402	VHiMT5135AE-1Q	CI controller DTB-T/C Demodulator	This is a control IC for PCMCIA cards. This controls information on IC cards inserted into the PCMCIA card slot (SC4401) or information on software version upgrade cards saved on flash memories to transfer the data to CPUs and memories.
IC2005	VHiR24002AS-1Y	2K bit E2PROM	This is a 2Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor.
IC1504	VHiSi9387+-1Q	HDMI_Port_Processor	The Si9387 HDMI port processor is the second generation of HDMI devices that support revision 1.4 of the HDMI specification. The main feature is as follows. 1) 5-input, 1-output HDMI port processor. 2) Audio Return Channel that allows an S/PDIF uplink from HDMI sink device to an HDMI source available in one receiver port. 3) Integrated TMDS receiver and transmitter cores capable of receiving and transmitting at 2.25Gbps. 4) Supports video resolutions up to 1080p, 60Hz, 12bit or 720p/1080i, 120Hz, 12bit. 5) Receiver fully comply with DVI1.0, HDCP and several optional 3D formats described in the HDMI1.4 specifications.
IC9505	VHiPD720114-1Q	Ethernet Bus Interface	The IC is a USB 2.0 hub device that complies with the Universal Serial Bus (USB) Specification Revision 2.0 and works up to 480 Mbps. USB 2.0 compliant transceivers are integrated for upstream and all downstream ports. The IC4 works backward compatible either when any one of the downstream ports is connected to a USB 1.1 compliant device, or when the upstream port is connected to a USB 1.1 compliant host.
IC2701	VHiYSS951VZ-1Y	Sound processor	This IC is the Sound processing LSI with built-in two DSP (MDSP/SDSP) and FM (frequency modulation) oscillators. This IC process sound signal and sent it to AMP for Speaker and Woofer.
IC2702 IC2703	VHiYDA164BZ-1Y	Audio-AMP	This IC is digital audio power amplifier with digital audio interface. The power-supply voltage is corresponded to A.5V~18V and the maximum output is 20Wx2ch.
IC1105 (LC-40/46LE830E, RU only)	RH-iXC563WJQZY	LNB supply and control	It is IC for amplifying the feeble electric wave sent from satellite broadcasting on the level which can treat a decoder, and changing and processing signal.

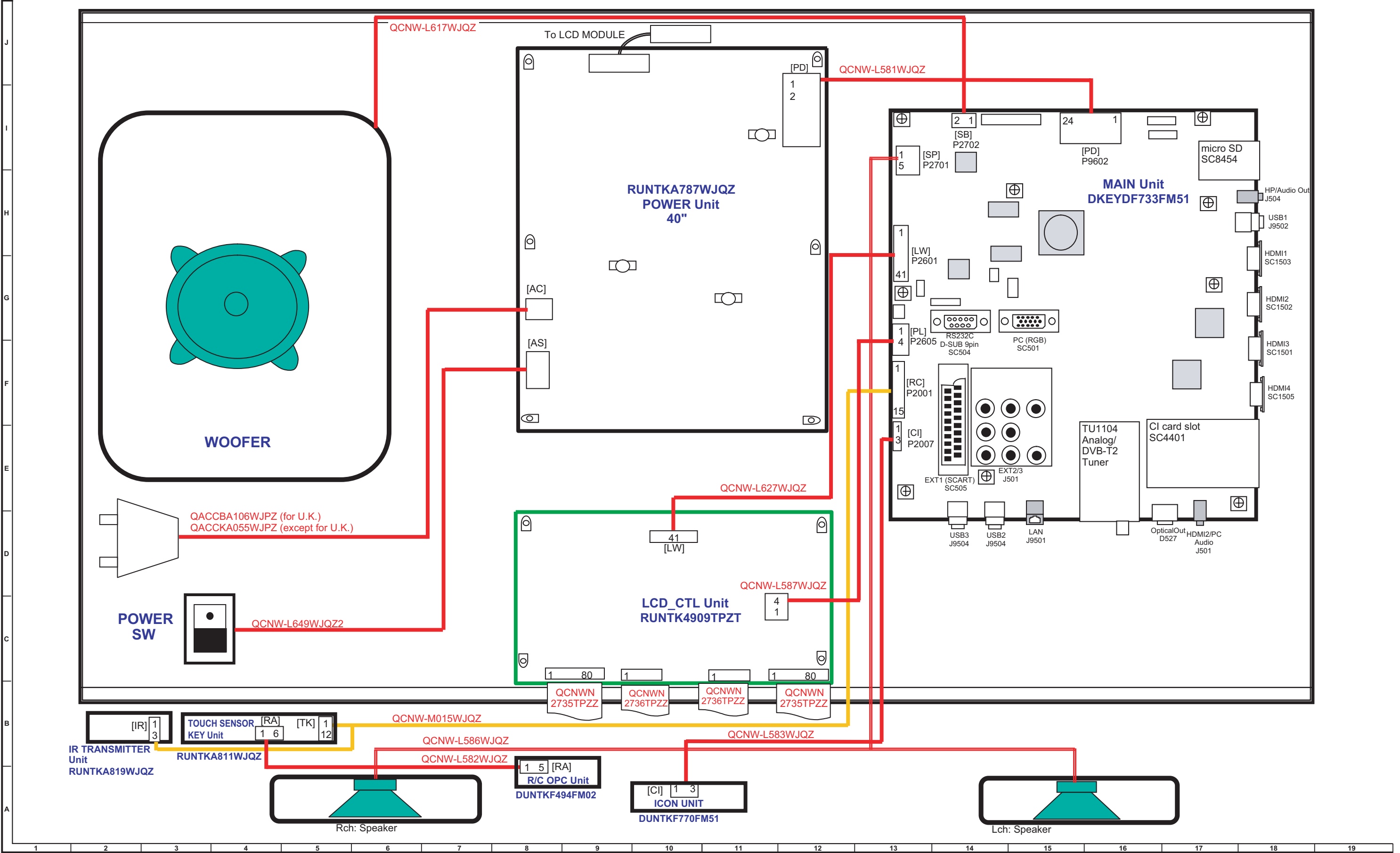
LC-40/46LE830E, RU/831E, S

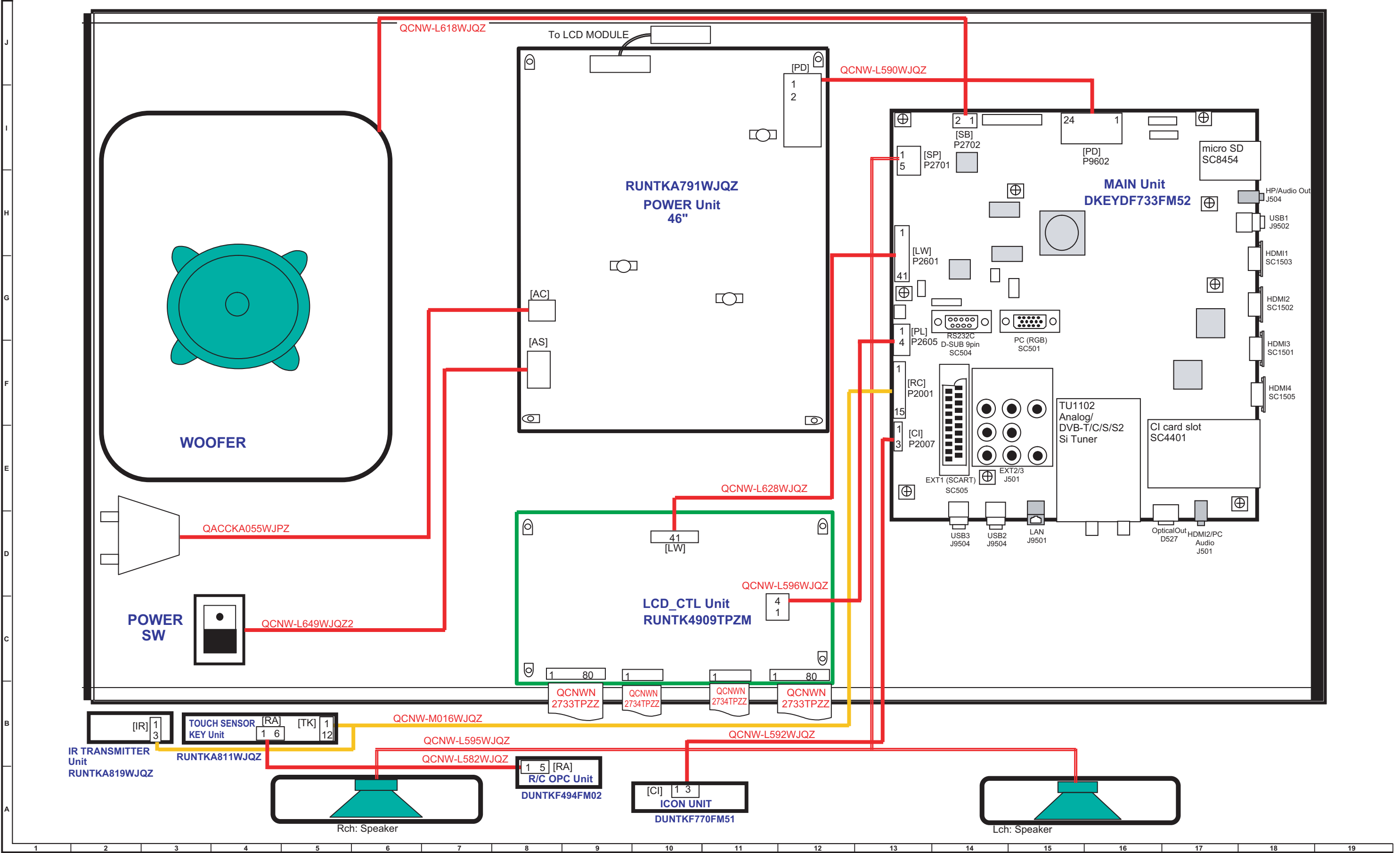
— M E M O —

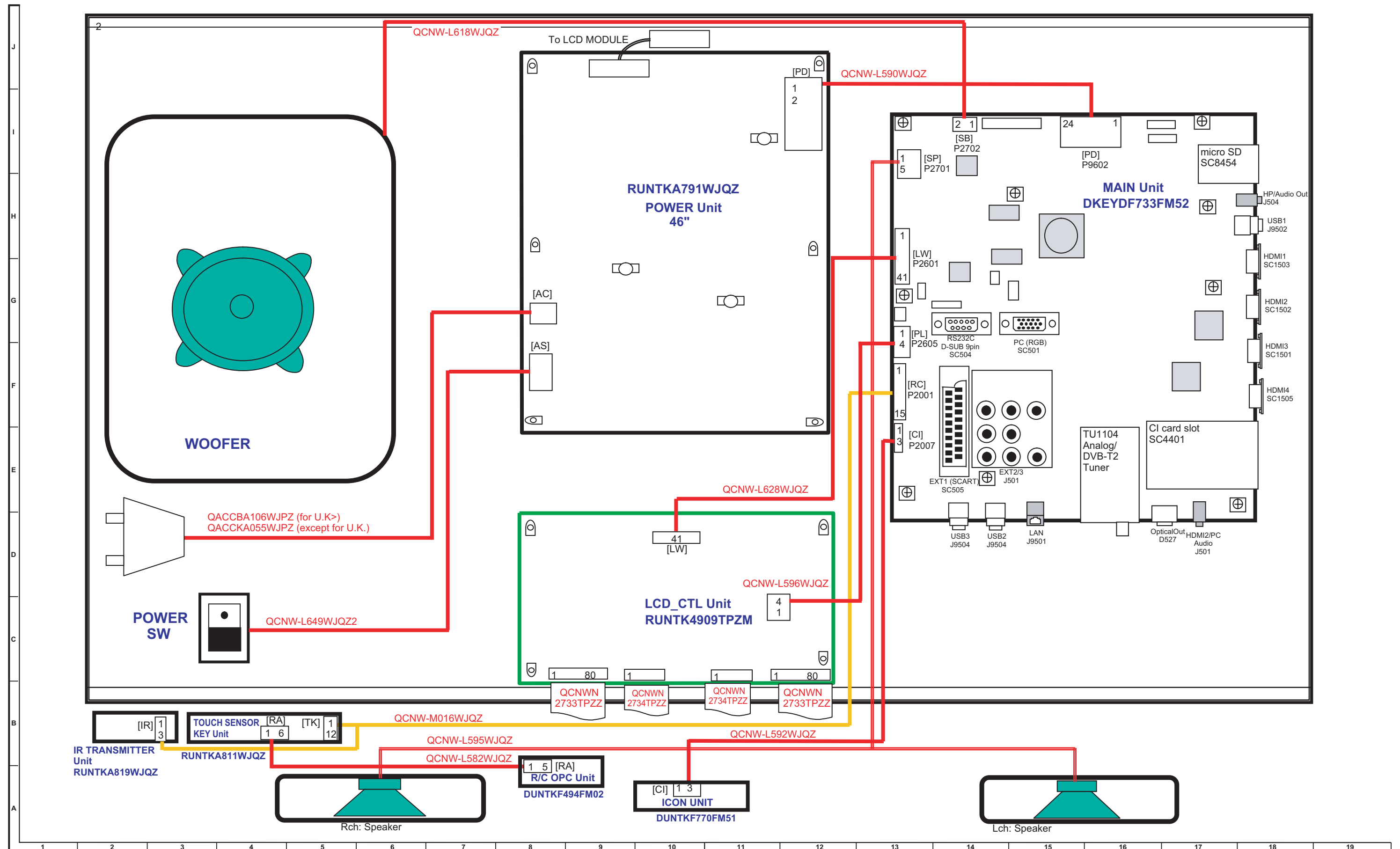
CHAPTER 8. OVERALL WIRING/SYSTEM BLOCK DIAGRAM

[1] OVERALL WIRING DIAGRAM (LC-40LE830E, RU)













SHARP PARTS GUIDE

No. S41P640LE830E



LCD COLOUR TELEVISION

LC-40LE830E/RU

LC-46LE830E/RU

LC-40LE831E/S

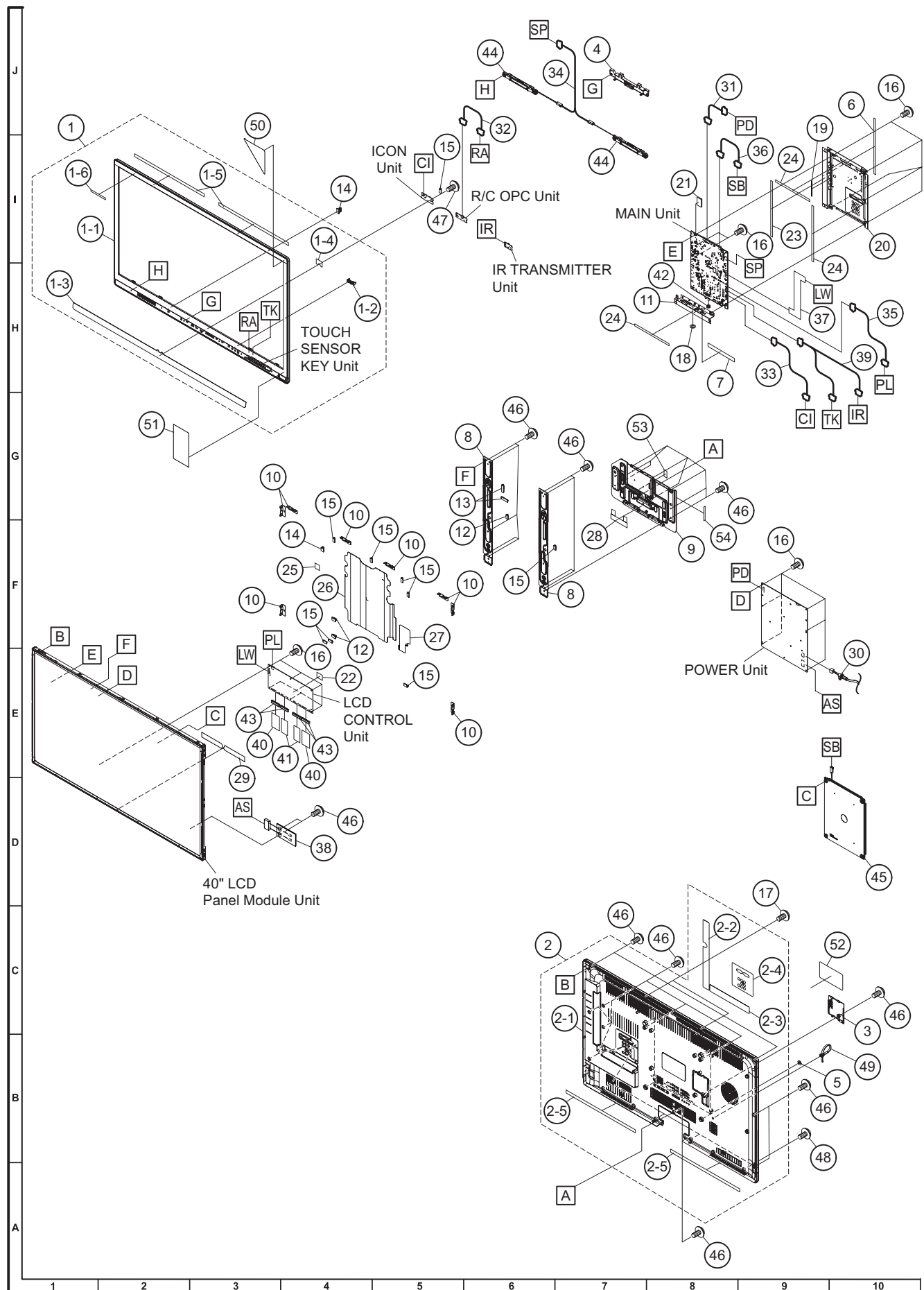
MODELS LC-46LE831E/S

CONTENTS

- | | |
|--|---|
| [1] PRINTED WIRING BOARD
ASSEMBLIES | [5] SUPPLIED ACCESSORIES/
PACKING PARTS
(LC-40LE830E, RU/831E, S) |
| [2] LCD PANEL MODULE | [6] SUPPLIED ACCESSORIES/
PACKING PARTS
(LC-46LE830E, RU/831E, S) |
| [3] CABINET PARTS
(LC-40LE830E, RU/831E, S) | [7] SERVICE JIGS
(USE FOR SERVICING) |
| [4] CABINET PARTS
(LC-46LE830E, RU/831E, S) | |

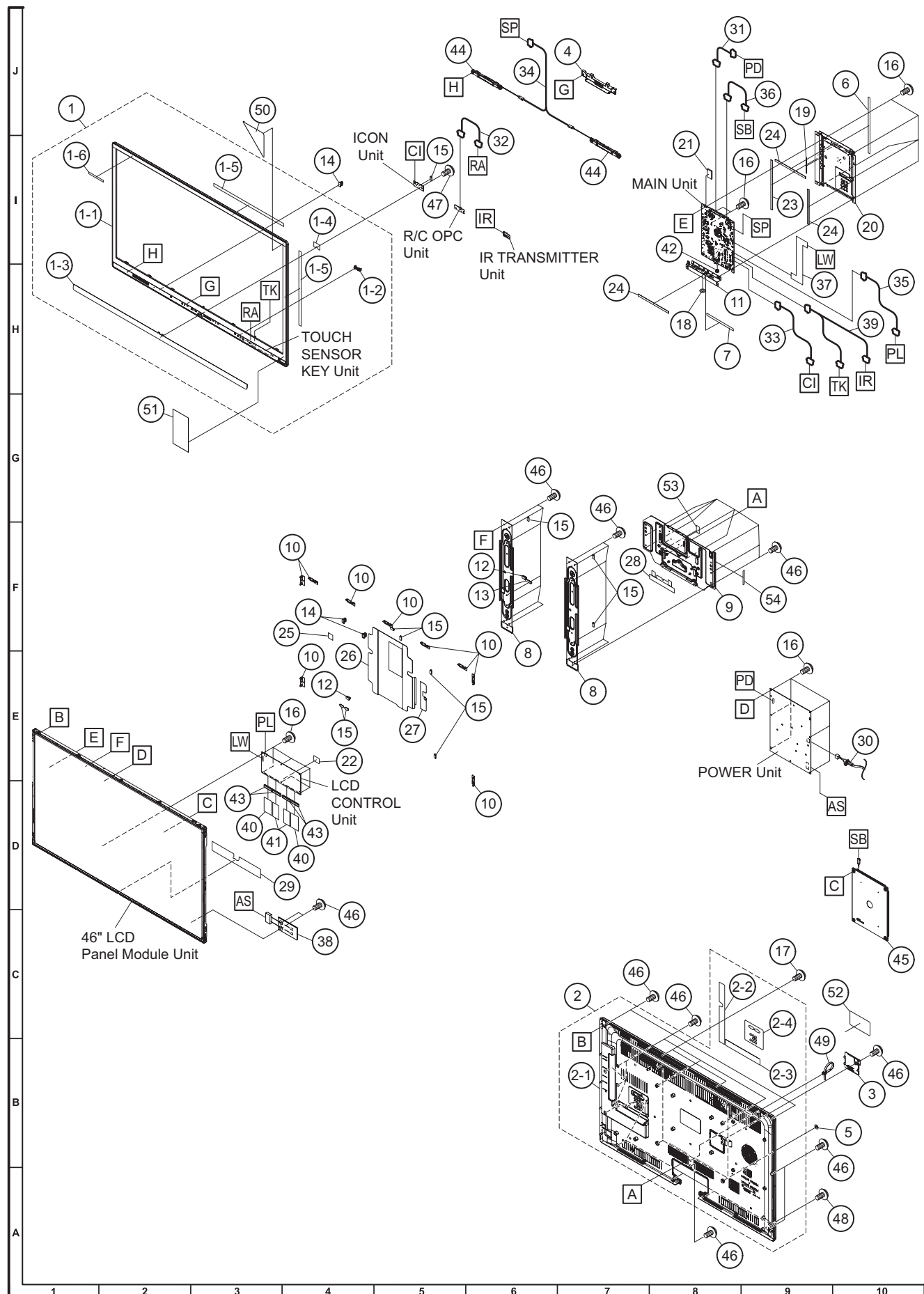
Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[1] PRINTED WIRING BOARD ASSEMBLIES					
N	DKEYDF733FM51	CF	N	P	MAIN Unit (LC-40/46LE830E, RU)
N	DKEYDF733FM52	CG	N	P	MAIN Unit (LC-40/46LE831E, S)
N	DUNTKF494FM02	AP	N	P	R/C OPC Unit
N	DUNTKF770FM51	AP	N	P	ICON Unit
N	RUNTKA869WJQZ		N	P	TOUCH SENSOR KEY Unit
N	RUNTKA819WJQZ	AU	N	P	IR TRANSMITTER Unit
N	RUNTKA787WJQZ	BS	N	P	POWER Unit (LC-40LE830E, RU/831E, S)
N	RUNTKA791WJQZ	BT	N	P	POWER Unit (LC-46LE830E, RU/831E, S)
N	RUNTK4909TPZT	CA	N	P	LCD CONTROL Unit (LC-40LE830E, RU/831E, S)
N	RUNTK4909TPZM	CA	N	P	LCD CONTROL Unit (LC-46LE830E, RU/831E, S)
[2] LCD PANEL MODULE					
N	R1LK400D3GW50Y	DZ	N	P	40" LCD Panel Module Unit (LK400D3GW50Y) (LC-40LE830E, RU/831E, S)
N	R1LK460D3GW40Y	EG	N	P	46" LCD Panel Module Unit (LK460D3GW40Y) (LC-46LE830E, RU/831E, S)

[3] CABINET PARTS (LC-40LE830E, RU/831E, S)

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[3] CABINET PARTS (LC-40LE830E, RU/831E, S)					
1	CCABAC653WJ11	BP	N	P	Front Cabinet Ass'y (LC-40LE830E for Europe/LC-40LE831E, S)
1	CCABAC653WJ12	BP	N	P	Front Cabinet Ass'y (LC-40LE830RU)
1-1	Not Available	-	N	-	Front Cabinet
1-2	Not Available	-	N	-	R/C OPC Cover
1-3	Not Available	-	N	-	Front Decoration
1-4	Not Available	-	N	-	Diffusion Sheet
1-5	Not Available	-	N	-	Himelon, x2
1-6	Not Available	-	N	-	Quattron 3D Label
2	CCABBB906WJ11	BF	N	P	Rear Cabinet Ass'y (LC-40LE830E, RU)
2	CCABBB906WJ12	BF	N	P	Rear Cabinet Ass'y (LC-40LE831E, S)
2-1	Not Available	-	N	-	Rear Cabinet
2-2	Not Available	-	N	-	Terminal Indicator (Side)
2-3	Not Available	-	N	-	Terminal Indicator (Bottom) (LC-40LE830E, RU)
2-3	Not Available	-	N	-	Terminal Indicator (Bottom) (LC-40LE831E, S)
2-4	Not Available	-	N	-	Terminal Indicator (Back)
2-5	PSPAHC471WJZZ		N	P	Himelon, x2
3	GCOVAD969WJ1A	AD	N	P	AC Cord Cover
4	GCOVAD973WJ1A	AE	N	P	Bottom Cover
5	GCOVHA137WJSA	AB		J	VESA Hole Cover, x4
6	HDECPA090WJZZ	AD	N	P	Decoration Sheet (Side)
7	HDECPA091WJZZ	AC	N	P	Decoration Sheet (Bottom)
8	LANGKD119WJM1	AQ	N	P	Center Angle, x2
9	LANGKD123WJM1	AW	N	P	LCD CONTROL Unit Angle
10	LANGKD127WJFW	AD	N	J	LCD Fixing Angle, x8
11	LANGKD148WJFW	AE	N	P	Terminal Angle (Bottom) (LC-40LE830E, RU)
11	LANGKD192WJFW	AE	N	P	Terminal Angle (Bottom) (LC-40LE831E, S)
12	LHLDWA138WJKZ	AC		J	Wire Holder, x3
13	LHLDWA176WJUJ	AC		J	Wire Holder, x2
14	LHLDWA282WJKZ	AC		J	Wire Holder, x2
15	LHLDWA294WJUJ	AC		J	Wire Holder, x9
16	LX-BZA207WJF7	AA		J	Screw, x19
17	LX-BZA401WJN1	AC	N	J	Screw, x2
18	LX-NZA049WJFN	AC		J	Nut
19	PMLT-A676WJZZ	AE	N	P	Gasket
20	PSLDMB751WJFW	AQ	N	P	Main Shield
21	PSPAGA963WJZZ	AB	N	P	PC Sheet
22	PSPAZC062WJKZ	AG		J	Spacer
23	PSPAZC690WJZZ	AC	N	P	Spacer
24	PSPAZC691WJZZ	AC	N	P	Spacer, x3
25	PSPAZC702WJKZ	AL	N	P	Spacer
26	PZETKA579WJKZ	AM	N	J	Insulation Sheet
27	PZETKA588WJKZ	AD	N	J	Insulation Sheet
28	PZETKA593WJKZ	AF	N	P	Barrier Sheet
29	PZETKA610WJKZ	AD	N	P	Insulator (FFC)
30	QACCB106WJPZ	AS	N	P	AC Cord (LC-40LE831E for U.K.)
30	QACCKA055WJPZ	AP	N	P	AC Cord (LC-40LE830E, RU/LC-40LE831E except for U.K./LC-40LE831S)
31	QCNW-L581WJQZ	AL	N	J	Connecting Cord (PD)
32	QCNW-L582WJQZ	AE	N	P	Connecting Cord (RA)
33	QCNW-L583WJQZ	AE	N	P	Connecting Cord (CI)
34	QCNW-L586WJQZ	AG	N	J	Connecting Cord (SP)
35	QCNW-L587WJQZ	AE	N	J	Connecting Cord (PL)
36	QCNW-L617WJQZ	AE	N	J	Connecting Cord (SB)
37	QCNW-L627WJQZ	AT	N	P	Connecting Cord (LW)
38	QCNW-L649WJQZ2	AR	N	P	Connecting Cord with ECO Switch (AS)
39	QCNW-M015WJQZ	AN	N	P	Connecting Cord (RC)
40	QCNWN2735TPZZ	AE	N	J	Connecting Cord FFC (80P: MDL-CTL), x2
41	QCNWN2736TPZZ	AE	N	J	Connecting Cord FFC (64P: MDL-CTL), x2
42	QEARZ0057CEFW	AB		J	Spring (LC-40LE830E, RU)
43	RCORFA061WJZZ	AG		J	Ferrite Core, x4
44	RSP-ZA511WJQZ	AU	N	P	Speaker (L/R)
45	RSP-ZA513WJQZ	AZ	N	P	Speaker (Woofer)
46	XBPS830P06WS0	AA		J	Screw, x32
47	XEBS830P08000	AA		J	Screw
48	XEBS830P12000	AA		J	Screw, x5
49	LHLDWA303WJKA	AE	N	J	AC Cord Band
50	TLABZC804WJZZ	AF	N	P	Pop Label
51	TLABZC847WJZZ	AF	N	P	Energy Label (LC-40LE830E for Europe/LC-40LE831E, S)
52	TLABNC117WJZZ	AA	N	P	Model Label
53	TLABZC935WJZZ	AD	N	P	Caution Label
54	PSPAHC472WJZZ		N	P	Himelon

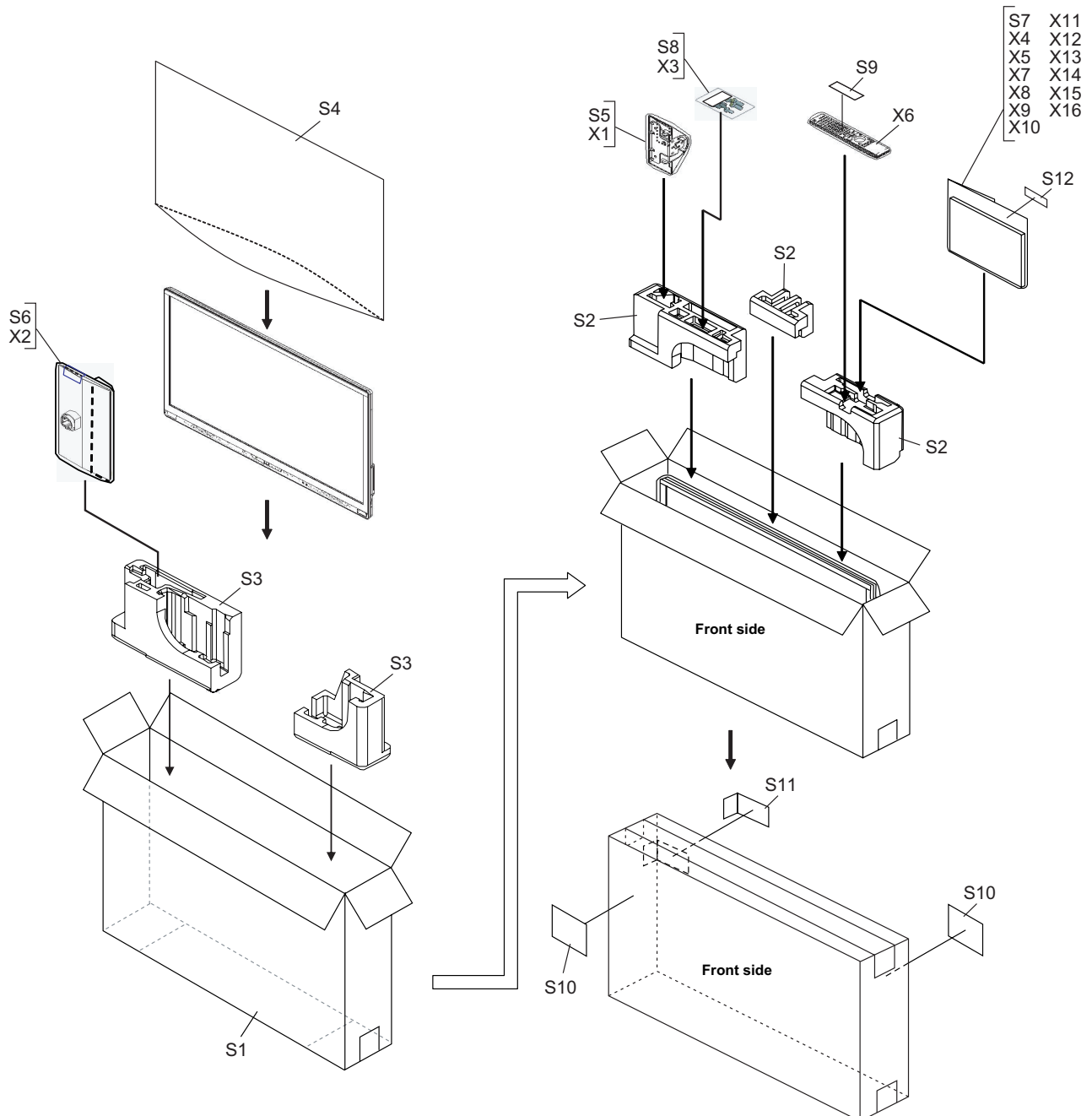
[4] CABINET PARTS (LC-46LE830E, RU/831E, S)



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[4] CABINET PARTS (LC-46LE830E, RU/831E, S)					
1	CCABAC654WJ11	BQ	N	P	Front Cabinet Ass'y (LC-46LE830E for Europe/LC-46LE831E, S)
1	CCABAC654WJ12	BQ	N	P	Front Cabinet Ass'y (LC-46LE830RU)
1-1	Not Available	-	N	-	Front Cabinet
1-2	Not Available	-	N	-	R/C OPC Cover
1-3	Not Available	-	N	-	Front Decoration
1-4	Not Available	-	N	-	Diffusion Sheet
1-5	Not Available	-	N	-	Himelon, x2
1-6	Not Available	-	N	-	Quattron 3D Label
2	CCABBB907WJ11	BK	N	P	Rear Cabinet Ass'y (LC-46LE830E, RU)
2	CCABBB907WJ12	BK	N	P	Rear Cabinet Ass'y (LC-46LE831E, S)
2-1	Not Available	-	N	-	Rear Cabinet
2-2	Not Available	-	N	-	Terminal Indicator (Side)
2-3	Not Available	-	N	-	Terminal Indicator (Bottom) (LC-46LE830E, RU)
2-3	Not Available	-	N	-	Terminal Indicator (Bottom) (LC-46LE831E, S)
2-4	Not Available	-	N	-	Terminal Indicator (Back)
3	GCOVAD969WJ1A	AD	N	P	AC Cord Cover
4	GCOVAD973WJ1A	AE	N	P	Bottom Cover
5	GCOVHA137WJSA	AB		J	VESA Hole Cover, x4
6	HDECPA090WJZZ	AD	N	P	Decoration Sheet (Side)
7	HDECPA091WJZZ	AC	N	P	Decoration Sheet (Bottom)
8	LANGKD120WJM1	AS	N	P	Center Angle, x2
9	LANGKD124WJM1		N	P	LCD CONTROL Unit Angle
10	LANGKD127WJFW	AD		J	LCD Fixing Angle, x9
11	LANGKD148WJFW	AE	N	P	Terminal Angle (Bottom) (LC-46LE830E, RU)
11	LANGKD192WJFW	AE	N	P	Terminal Angle (Bottom) (LC-46LE831E, S)
12	LHLDWA138WJKZ	AC		J	Wire Holder, x2
13	LHLDWA176WJUJ	AC		J	Wire Holder
14	LHLDWA282WJKZ	AC		J	Wire Holder, x3
15	LHLDWA294WJUJ	AC		J	Wire Holder, x10
16	LX-BZA207WJF7	AA		J	Screw, x19
17	LX-BZA401WJN1	AC	N	J	Screw, x2
18	LX-NZA049WJFN	AC		J	Nut
19	PMLT-A676WJZZ	AE	N	P	Gasket
20	PSLDMB751WJFW	AQ	N	P	Main Shield
21	PSPAGA963WJZZ	AB	N	P	PC Sheet
22	PSPA2C062WJKZ	AG		J	Spacer
23	PSPA2C690WJZZ	AC	N	P	Spacer
24	PSPA2C691WJZZ	AC	N	P	Spacer, x3
25	PSPA2C702WJKZ	AL	N	P	Spacer
26	PZETKA580WJKZ	AN	N	J	Insulation Sheet
27	PZETKA589WJKZ	AD	N	J	Insulation Sheet
28	PZETKA634WJKZ		N	P	Barrier Sheet
29	PZETKA611WJKZ	AE	N	P	Insulator (FFC)
30	QACBA106WJPZ	AS	N	P	AC Cord (LC-46LE831E for U.K.)
30	QACCA055WJPZ	AP	N	P	AC Cord (LC-46LE830E, RU/LC-46LE831E except for U.K./LC-46LE831S)
31	QCNW-L590WJQZ	AM	N	J	Connecting Cord (PD)
32	QCNW-L582WJQZ	AE	N	P	Connecting Cord (RA)
33	QCNW-L592WJQZ	AF	N	P	Connecting Cord (CI)
34	QCNW-L595WJQZ	AH	N	J	Connecting Cord (SP)
35	QCNW-L596WJQZ	AE	N	J	Connecting Cord (PL)
36	QCNW-L618WJQZ	AF	N	J	Connecting Cord (SB)
37	QCNW-L628WJQZ	AT	N	P	Connecting Cord (LW)
38	QCNW-L649WJQZ2	AR	N	P	Connecting Cord with ECO Switch (AS)
39	QCNW-M016WJQZ	AN	N	P	Connecting Cord (RC)
40	QCNWN2733TPZZ	AF	N	J	Connecting Cord FFC (80P: MDL-CTL), x2
41	QCNWN2734TPZZ	AF	N	J	Connecting Cord FFC (64P: MDL-CTL), x2
42	QEARZ0057CEFW	AB		J	Spring (LC-46LE830E)
43	RCORFA061WJZZ	AG		J	Ferrite Core, x4
44	RSP-ZA511WJQZ	AU	N	P	Speaker (L/R)
45	RSP-ZA513WJQZ	AZ	N	P	Speaker (Woofer)
46	XBPS830P06WS0	AA		J	Screw, x36
47	XEBS830P08000	AA		J	Screw
48	XEBS830P12000	AA		J	Screw, x7
49	LHLDWA303WJKA	AE	N	J	AC Cord Band
50	TLABZC804WJZZ	AF	N	P	Pop Label
51	TLABZC848WJZZ	AF	N	P	Energy Label (LC-46LE830E for Europe/LC-46LE831E, S)
52	TLABNC117WJZZ	AA	N	P	Model Label
53	TLABZC935WJZZ	AD	N	P	Caution Label
54	PSPAHC472WJZZ		N	P	Himelon

[5] SUPPLIED ACCESSORIES/PACKING PARTS (LC-40LE830E, RU/831E, S)

X1 Stand Support Ass'y (x1) 	X2 Stand Base Ass'y (x1) 	X3 Stand Screw Ass'y (x1) 	X4 Wireless LAN USB adapter (WN8522D 7-JU) (x1) 
X6 Remote control unit (x1) 	X15 LR03 ("AAA" size alkaline) battery (x2) 	X5 Cable tie (x1) 	
X7 Safety Sheet		X12 Guarantee Card (LC-40LE831E for U.K.)	
X8 WEEE Sheet (LC-40LE830E for Europe/LC-40LE831E, S)		X13 Guarantee Card (LC-40LE830RU)	
X9 Gost Sheet (LC-40LE830RU)		X14 Operation Manual	
X10 WiFi Sheet		X16 USB Memory	
X11 Guarantee Card (LC-40LE831E for U.K.)			



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[5] SUPPLIED ACCESSORIES/PACKING PARTS (LC-40LE830E, RU/831E, S)					
X1	CANGKD135WJ01	AX	N	J	Stand Support Ass'y
X2	CDAi-A720WJ01	BH	N	P	Stand Base Ass'y
X3	CSAKKA010WJ01	AF	N	P	Stand Screw Ass'y
X4	Ki-OUA003WJQZ	BD	N	P	Wireless LAN USB Adaptor
X5	LHLDWA303WJKA	AE	N	J	Cable Tie
X6	RRMCGA902WJSA	AV	N	P	Remote Control Unit
X7	TCAUZA445WJZZ	AC	N	P	Safety Sheet
X8	TCAUZA446WJZZ	AC	N	P	WEEE Sheet (LC-40LE830E for Europe/LC-40LE831E, S)
X9	TCAUZA447WJZZ		N	P	Gost Sheet (LC-40LE830RU)
X10	TCAUZA458WJZZ	AA	N	P	WiFi Sheet
X11	TGAN-A801WJN1		N	P	Guarantee Card (LC-40LE831E for U.K.)
X12	TGAN-A802WJN1		N	P	Guarantee Card (LC-40LE831E for U.K.)
X13	TGAN-B651WJZZ	AA	N	P	Guarantee Card (LC-40LE830RU)
X14	TiNS-E994WJZZ	AD	N	P	Operation Manual
X15	Not Available	-	N	-	LR03 ("AAA" size alkaline) battery
X16	UIMCUA004WJQZ2	AY	N	P	USB Memory
S1	SPAKCF961WJZZ	-	N	-	Packing Case (NOT REPLACEMENT ITEM)
S2	SPAKXD155WJZZ	-	N	-	Packing Add. (Top) (NOT REPLACEMENT ITEM)
S3	SPAKXD236WJZZ	-	N	-	Packing Add. (Bottom) (NOT REPLACEMENT ITEM)
S4	SPAKPB475WJZZ	-	-	-	Wrapping Paper (NOT REPLACEMENT ITEM)
S5	SPAKPB689WJZZ	-	N	-	Wrapping Paper (Support), x2 (NOT REPLACEMENT ITEM)
S6	SPAKPB688WJZZ	-	N	-	Wrapping Paper (Stand) (NOT REPLACEMENT ITEM)
S7	SSAKAA111WJZZ	-	-	-	Polyethylene Bag (NOT REPLACEMENT ITEM)
S8	SSAKKA010WJZZ	-	N	-	Polyethylene Bag (NOT REPLACEMENT ITEM)
S9	TLABK0023TAZZ	-	N	-	Bar Code Label (Remote Control Unit) (NOT REPLACEMENT ITEM)
S10	TLABZC699WJZZ	-	N	-	Q3D-EISA Label, x2 (NOT REPLACEMENT ITEM)
S11	TLABM5584BMZZ	-	N	-	Case No Label (NOT REPLACEMENT ITEM)
S12	TLABZC826WJZZ	-	N	-	Bar Code Label (NOT REPLACEMENT ITEM)

The diagram illustrates the assembly of the front panel for a device. The components are labeled as follows:

- S1**: Main front panel housing.
- S2**: Bottom bezel or base plate.
- S3**: Side mounting brackets or clips.
- S4**: Internal mounting brackets or clips.
- S5**: Top bezel or cover plate.
- S6**: Small internal component, possibly a screw or pin.
- S7**: Small internal component, possibly a screw or pin.
- S8**: Small internal component, possibly a screw or pin.
- S9**: Small internal component, possibly a screw or pin.
- S10**: Small internal component, possibly a screw or pin.
- S11**: Small internal component, possibly a screw or pin.
- S12**: Small internal component, possibly a screw or pin.
- S13**: Small internal component, possibly a screw or pin.
- S14**: Small internal component, possibly a screw or pin.
- X1** through **X16**: Various small components, possibly screws, pins, or spacers.

The assembly process is shown in several steps:

- Assembly of the base unit (S2) with internal components (S4, S8, X2).
- Attachment of the side mounting brackets (S3) to the base unit.
- Attachment of the top bezel (S5) to the side mounting brackets.
- Attachment of the main front panel housing (S1) to the side mounting brackets.
- Attachment of the bottom bezel (S2) to the main front panel housing.
- Final assembly of the front panel (S1) with the base unit (S2) and side mounting brackets (S3).

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[6] SUPPLIED ACCESSORIES/PACKING PARTS (LC-46LE830E, RU/831E, S)					
X1	CANGKD136WJ01	AW	N	J	Stand Support Ass'y
X2	CDAi-A721WJ01	BM	N	P	Stand Base Ass'y
X3	CX-BZA399WJ01	AG	N	J	Stand Screw Ass'y
X4	Ki-OUA003WJQZ	BD	N	P	Wireless LAN USB Adaptor
X5	LHLDWA303WJKA	AE	N	J	Cable Tie
X6	RRMCGA902WJSA	AV	N	P	Remote Control Unit
X7	TCAUZA445WJZZ	AC	N	P	Safety Sheet
X8	TCAUZA446WJZZ	AC	N	P	WEEE Sheet (LC-46LE830E for Europe/LC-46LE831E, S)
X9	TCAUZA447WJZZ		N	P	Gost Sheet (LC-46LE830RU)
X10	TCAUZA458WJZZ	AA	N	P	WiFi Sheet
X11	TGAN-A801WJN1		N	P	Guarantee Card (LC-46LE831E for U.K.)
X12	TGAN-A802WJN1		N	P	Guarantee Card (LC-46LE831E for U.K.)
X13	TGAN-B651WJZZ	AA	N	P	Guarantee Card (LC-46LE830RU)
X14	TiNS-E994WJZZ	AD	N	P	Operation Manual
X15	Not Available	-	N	-	LR03 ("AAA" size alkaline) battery
X16	UIMCUA004WJQZ2	AY	N	P	USB Memory
S1	SPAKCF962WJZZ	-	N	-	Packing Case (NOT REPLACEMENT ITEM)
S2	SPAKCF963WJZZ	-	N	-	Packing Case (Bottom) (NOT REPLACEMENT ITEM)
S3	SPAKXD156WJZZ	-	N	-	Packing Add. (Top) (NOT REPLACEMENT ITEM)
S4	SPAKXD240WJZZ	-	N	-	Packing Add. (Bottom) (NOT REPLACEMENT ITEM)
S5	SPAKPB477WJZZ	-	N	-	Wrapping Paper (NOT REPLACEMENT ITEM)
S6	SPAKFC110WJZZ	-	N	-	Wrapping Paper (Support) (NOT REPLACEMENT ITEM)
S7	SPAKFC111WJZZ	-	N	-	Wrapping Paper (Angle) (NOT REPLACEMENT ITEM)
S8	SPAKFC109WJZZ	-	N	-	Wrapping Paper (Stand) (NOT REPLACEMENT ITEM)
S9	SSAKAA111WJZZ	-	N	-	Polyethylene Bag (NOT REPLACEMENT ITEM)
S10	SPAKFC112WJZZ	-	N	-	Polyethylene Bag (NOT REPLACEMENT ITEM)
S11	TLABK0023TAZZ	-	N	-	Bar Code Label (Remote Control Unit) (NOT REPLACEMENT ITEM)
S12	TLABZC699WJZZ	-	N	-	Q3D-EISA Label, x2 (NOT REPLACEMENT ITEM)
S13	TLABM5584BMZZ	-	N	-	Case No Label (NOT REPLACEMENT ITEM)
S14	TLABZC826WJZZ	-	N	-	Bar Code Label (NOT REPLACEMENT ITEM)
[7] SERVICE JIGS (USE FOR SERVICING)					
N	QCNW-L795WJQZ		N	J	Main Unit to Power Unit (PD)
N	QCNW-L798WJQZ		N	J	Main Unit to Touch Sensor/IR Transmitter Units (RC)
N	QCNW-L796WJQZ		N	J	Main Unit to ICON Unit (CI)
N	QCNW-K595WJQZ		N	J	Main Unit to Speaker (SP)
N	QCNW-G405WJQZ		N	J	Main Unit to LCD Control Unit (PL)
N	QCNW-F676WJQZ		N	J	Power Unit to LCD Control Unit (LW)
N	QCNW-K597WJQZ		N	J	Main Unit to Woofer (SB)

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